

## USDA Ups Yield Estimates For 1958 Crop Year

Earlier Estimates Are Discarded in View of Present Crop Prospect

WASHINGTON—Official estimates on the output of important crops issued on Aug. 1 by the Agricultural Marketing Service of the U.S. Department of Agriculture indicate record production in some instances, and considerably above-average yields in nearly all crops.

The report, released by USDA on Aug. 11, is as follows:

Corn is estimated at 3,487 million bu., second-highest production on record. This figure is up 5% from the USDA forecast made on July 1; is 2% (Turn to CROP YIELDS, page 5)

## Program Plans for Canadian Chemical Meeting Announced

WINNIPEG, MAN., CANADA—The program for the sixth annual meeting of the Canadian Agricultural Chemicals Assn. has been announced by J. H. Elliott, Montreal, president of the association. The meeting will be held at the Fort Garry Hotel, Winnipeg, Sept. 15-17.

Mr. Elliott will present the keynote (Turn to MEETING, page 5)

## New Farm Bill Expected To Allow More Corn and Cotton Acreage in '59

By JOHN CIPPERLY  
Croplife Washington Correspondent

WASHINGTON — Congress last week went down the compromise path on a farm bill for this year which will expand cotton acreage for the 1959-60 crop years to not less

than 16.6 million acres. Congress has accepted a farm bill which will make available for the fertilizer industry a broader market than had been anticipated by the Jeremiah-type prophets who predicted that there would be no farm legislation this year.

This compromise on the farm bill is meaningful in major respects not ordinarily reported in general public journals — this compromise means that there will not only be more cotton farm acres available for fertilizer and pesticidal chemical sales than last year—the compromise bill will fix 16.6 million cotton acreage base, and it will also permit cotton farmers who wish to exceed that base acreage by 40%, to obtain a minimum level of price support for cotton.

This compromise bill—at the end of last week in the agreement stage between the farm bloc and USDA—is certain to be passed by Congress this week. It will fix a level of support for cotton on small farms at not less than 80% of cotton parity support now seen likely at 80% minimum or for large cotton farms at not less than 65% of cotton parity for farms which will be permitted to exceed their individual cotton farm allotments by 40%.

It is also noted that the compromise bill permits the small cotton farm to retain its previous minimum acreage allotment of not less than four acres.

Had there been no farm legislation this year under the existing farm law, the minimum acreage (Turn to FARM BILL, page 5)

## Cotton Growers Able to Cut Production Costs Through Application of Pesticides

BROWNSVILLE, TEXAS—Papers on insect and weed control, application techniques, and plant disease control were included in the program of the 1958 Beltwide Cotton Mechanization Conference held at

Brownsville, Aug. 12-14. The conference, sponsored by the National Cotton Council of America, was held in cooperation with the Land Grant Colleges, Farm Equipment Institute, U.S. Department of Agriculture, Vocational Agriculture, and farm organizations.

Promise of earlier lay-by of cotton through use of herbicides was indicated by Carl H. Thomas, agricultural engineer at the Louisiana Experiment Station, in his talk before the group. He said that elimination of late season cultivations and reduction of weed and grass contamination at harvest could result from proper use of herbicides.

Mr. Thomas reported that in the tests, two nozzles per row were used. These were adjusted to spray the middles and the row, except for a four to five inch band centered on the top of the row. Nozzles are mounted on the rear of a high clearance sprayer with swivel adjustments for proper row coverage.

In describing the results of a survey of herbicidal equipment used in (Turn to CONFERENCE, page 8)

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### USDA COMPILES DATA ON . . .

## Crop-Use Patterns of Fertilizer in the U.S.

By J. R. Adams, L. B. Nelson and D. B. Ibach<sup>1</sup>

Drs. Adams and Nelson are with the Soil and Water Conservation Research Division, and Mr. Ibach with the Farm Economics Research Division, Agricultural Research Service, U.S. Department of Agriculture, Beltsville, Md.

### Scope and Method of Study

A STUDY of the use of commercial fertilizer on the major crops of the United States will be presented

<sup>1</sup>The authors gratefully acknowledge the assistance of field staff members of the Farm Economics and the Soil and Water Conservation Research Divisions, Agricultural Research Service, and representatives of State Agricultural Experiment Stations and Extension Services for supplying estimates on nutrient use. Esther I. Fox assisted in the statistical work and in the preparation of the maps.

in a series of reports. Much of the data was derived from the 1954 United States Census of Agriculture (6,7). Fertilizer use patterns have been determined for all crops and cropland pasture, hay and cropland pasture, corn, wheat, oats, potatoes, tobacco, and cotton, throughout the country.

The reports answer these questions:

1. How much of our cropland in

different parts of the United States receives fertilizer?

2. How is fertilizer consumption divided among major crops?

3. What percentage of the acreage in each crop receives fertilizer and how does this vary with different states, soils, and types of farming areas?

4. What are the rates of nitrogen (N), available phosphoric oxide (P<sub>2</sub>O<sub>5</sub>), and potash (K<sub>2</sub>O) being applied on the major crops in different states and on the various soils and types of farming areas?

The summaries and charts will serve as a bench mark for studying future trends in fertilizer use on the different crops.

The importance of the answers is (Turn to FERTILIZER USE, page 20)

### EDITOR'S NOTE

This article is the introductory one in a series of nine scheduled to appear in subsequent issues of Croplife. The authors, Dr. J. R. Adams, Dr. L. B. Nelson, and D. B. Ibach have worked diligently for a long time to compile this monumental statistical work which they describe as being "the most extensive collection of fertilizer use information ever compiled in the United States"

The editors of Croplife are happy to present this material to the trade during the nine-week period. Reprints of the material will be available upon completion of the series. More information on this will be published later.





Thomas N. Wright

**BECOMES SALES MANAGER**—Thomas N. Wright, for three years a regional sales representative for Rockland Chemical Co., West Caldwell, N.J., has been made sales manager of the firm. The company produces and distributes a complete line of agricultural chemicals. In his new position, Mr. Wright will direct the selling activities of all sales representatives of Rockland throughout the East, according to John R. Witt-penn, vice president.

### Named to New Position in Idaho

**POCATELLO, IDAHO**—Avery L. Stutts, Westvaco Mineral Products division official in Pocatello, Idaho, for the past seven years, has been appointed manager of the phosphate works being constructed in Georgetown Canyon near Montpelier, by Central Farmers Fertilizer Co.

Mr. Stutts originally was assigned to Pocatello as raw materials supervisor at the Westvaco plant in 1951, became operating superintendent, then general superintendent and recently was staff assistant to the resident manager. He had previous experience with Olin Mathieson Chemical Company.

Charles M. Miller, present manager, will assume the duties of materials manager, a newly created position brought about by the company's expansion. He will direct the mining, phosphate rock processing and finished product shipping activities.

Central Farmers Fertilizer Company is an inter-regional agricultural co-operative, producing and distributing basic fertilizer materials.

### Beaird Opens Office In New York Location

**SHREVEPORT, LA.**—Opening of a district office in New York City has been announced by J. Pat Beaird, president of J. B. Beaird Co., Inc., Shreveport.

R. W. Rademacher, formerly manager of plant storage, has been promoted to manager of Beaird's eastern division and will be in charge of the New York Office in the AMF Building on Madison Avenue.

The Beaird firm is a supplier of pressure vessels for storing and processing petroleum and chemical products. Mr. Rademacher has been closely associated with Beaird's pressure vessel program since he became associated with the company in 1952 and has served as manager of plant storage and contract sales for two years.

### DUSTER CRASHES

**OKLAHOMA LANE, TEXAS**—A Clovis, N.M., crop-dusting plane crashed near here on the A. V. Warren farm. The pilot, Harry Chandler, 31, employed by the Western Flying Service of Clovis, was killed.

## Virginia Tonnages Down for Year, But Increasing in '58

**RICHMOND, VA.**—The Virginia department of agriculture has announced that 609,701 tons of mixed fertilizer were sold in the state during the year ending June 30, 1958. This figure was somewhat less than the 636,276 tons tallied in the previous fiscal year.

The most popular grade, the report indicates, was 5-10-10, which accounted for 157,838 tons. Second was 2-12-12, with 126,659 tons.

In fertilizer materials sold in the state during the 12-month period ending June 30, nitrogenous materials accounted for 52,808 tons of the total of 80,855 tons which comprised all materials sold.

Ranking first among nitrogenous materials, was 20% nitrogen goods which sold in the amount of 18,289 tons. Nitrate of soda was next with 14,618 tons. Nitrogen solutions accounted for 8,598 tons and ammonium nitrate, 7,608 tons.

Some 4,337 tons of 20% superphosphate were sold, and 3,118 tons of muriate of potash were tallied in the report. The total tons of materials used for the 1957-58 years in Virginia, was 80,855 tons.

The report made comparisons between tonnages of the past fiscal year with some of the years previous, back to the 1953-54 period. That year, the totals were 685,101 tons of mixed fertilizers and 95,814 tons materials.

In 1954-55, the totals were respectively, 697,635 and 98,135 tons. In 1955-56, they were 672,563 and 89,257 tons, respectively.

Encouraging signs in the tonnage trend were noted in the Virginia report for the first half of 1958, when mixed goods were sold in the amount of 524,155 tons as compared to 481,060 during the same two quarters of 1957. Materials were also on the up-grade, with 76,003 tons being recorded for the first half of 1958, as compared to 68,713 tons in the same period last year. The totals (mixed fertilizer plus materials) came to 600,158 tons for this year against 549,773 tons last year.

The 5-10-10 grade was again the best seller, accounting for 124,939 tons for the first half of 1958 as against 123,427 tons the same months of 1957. An even greater increase was seen for 2-12-12, which reached a total of 111,574 tons in the first half of 1958 against 81,396 tons last year.

Nitrogenous materials were also up from last year's totals, the figures being 50,515 and 45,659 tons, respectively. This helped the total material tonnage to reach the figure of 76,003 tons against a tally of 68,713 tons in the first half of last year.

### Ohio Pesticide Institute Holds Summer Tour

**WOOSTER, OHIO**—The summer tour of the Ohio Pesticide Institute was held Aug. 12 and 13 at the Ohio Agricultural Experiment station here. Researchers told about latest results in experiments with chemicals being used in the fight to control insects. Emphasis was made on fly control in the dairy barn and the use of new systemic chemicals that kill ox warble parasites of cattle.

Other subjects treated were potato sprays, soil treatment, vegetable insect control, weed control, peach thinning and borer control in shade trees, as well as apple scab fungicides, insect and mite control on peaches and plums, fungicide trials for brown rot control, effect of fungicides on apple fruit set, control of the rosy apple aphid and tomato sprays.

## Mixed Pattern for Pesticide Sales Recorded During 1958 In Many Crop Areas of U.S.

By Melvin Goldberg

Pesticide Advisory Service  
New York City

**T**HE pesticide sales pattern during the current summer and up to date has been somewhat mixed. The late and wet spring has affected crops in many areas throughout the states and the movement of agricultural chemicals have been correspondingly confused.

In the Southeast, there has not been much of a cotton season to date. Florida has suffered intensely as a result of very bad and unseasonably cold weather throughout the early winter of 1957 as well as in the spring of 1958.

The Southwestern picture for the most part was quite active so far as pesticidal chemicals were concerned, and a very heavy volume of materials moved, particularly for cotton.

In the Midwest the season was just average, and in the Northeast it was characteristically slow in view of the late winter, or rather, late spring.

Prices have been fluctuating. The old standby of the cotton south, benzene hexachloride, suffered a severe decline brought about by the lack of consumption of this material. Chlorinated camphene, (toxaphene) has been in tight supply but this was primarily due to heavy export demand in the latter part of 1957 and early part of 1958, and the generally sparse carryover picture from last year.

Parathion and methyl parathion suffered severe price declines, brought about for the most part by foreign competition. It has been stated by many in the trade that American chemical manufacturers will have to take a stand sooner or later to overcome this foreign competition or lose their market altogether. The prices have declined rather seriously which has made for a very unstable U.S. market.

**Technical DDT has remained in a firm, stable position and at times was tight in supply. This was characterized by very heavy withdrawal of technical material for the World Health Organization and International Cooperation Administration's anti-malarial program. In addition, there was a rather sharp price increase effective April 1 which caused heavy shipments to move out in the first quarter of the 1958 calendar year.**

It is now apparent at least to most industry observers, that material will continue tight until the beginning of the third quarter, at which time industry spokesmen expect that heavy purchases will start once again for ICA and WHO requirements. Reference was made in the previous article to the contemplated demand of some 75 million lb. of this material over a 12 month period for anti-malarial work throughout the world during the 1958-59 season.

Even the depressed-price herbicide market did not respond to what could have been a very good year, since price fluctuations, coupled with late season, did not move the normal volume of material that should have been sold up to this date. However, there is in the scene many soil sterilant types of herbicides which will make the farmer's life within the next few seasons quite happier and more convenient, more efficient and more economical.

There are newer more specific herbicides being offered and it is expected that the herbicide market will continue to grow. However, unless these specialized chemicals are kept in bounds, prices will tend to cause a most unstable market as far as dis-

tributors and dealers are concerned.

The New York Times on Sunday, Aug. 3, reported an incident that happened in Nassau County in New York, which is quite characteristic of the present retreat of farm land to the higher priced real estate market. Nassau has been noted as a highly developed potato and vegetable market, and the report concerned a plot of land that was sold in Hicksville, Long Island, where there is a 2,200-house development now being constructed on 400 acres.

The owner of the land previously sold the land for \$500 an acre in 1943. Two years later it changed hands for \$1,200 an acre. Shortly thereafter, the building firm paid \$2,400 an acre sight unseen. By 1955, the construction company had sold the land plus additional adjoining acreage that brought the total to 635 acres for a total of \$7,800 an acre. Thus, before a house was erected, the property had been sold four times in 12 years at prices that ranged from \$500 to \$7,800 an acre.

The Times further adds that there are areas within the county where \$16,000 an acre for property for construction of homes is not unusual. This is another indication of the tendency towards the shrinking of land available for agricultural crops, which are now going into homes and thus decreasing the amount of land under cultivation. However, this tendency should increase pesticide sales potential.

The new farm bill which is expected to pass Congress during the next few weeks is designed eventually to fix the support price for cotton, corn and rice at 90% of the average market price for the preceding three years. For corn, the new support plan would go into effect with the 1959 crop, while with cotton and rice, the price support plan would go into effect in 1961. For these three crops, the present bill provides support prices at 75-90% of parity, depending upon the supply factor. As the supply increases, the support prices decline.

The present bill is the result of many compromises and although still not entirely satisfactory to all farmers and to all members of Congress, it is considered as being more realistic than some farm legislation in the past, in that price is recognized as the basic factor in the steady flow of farm products to the consumers. However, the federal government will continue to be involved in prices and production controls.

The consensus in the trade is that the measure as is now certain to be enacted would result in a substantial increase in acreage next year. It is thought that cotton growers in a position to produce a bale or more to the acre, would choose to have their allotment increased and take the lowest support price, and those producing less than a bale to the acre, would prefer the higher support price and the smaller acreage.

It is hoped that by 1961 most problems will be settled and that the years of transition will have been behind which will help towards the establishment of a long range logical cotton program. This, of course, should help out manufacturers and distributors of agricultural pesticides to at least count on a more normal acreage to be put into production

(Turn to GOLDBERG, page 23)



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## INSECT AND PLANT DISEASE NOTES

### Cotton Pests Numerous In Arizona Counties

PHOENIX, ARIZ.—Cotton insects are now causing injury in almost all parts of the state and include Lygus, stink bugs, bollworms, cabbage loopers, leaf perforators, and salt marsh caterpillars. In some fields controls now will mean the difference between profit and loss.

In Pinal County, Lygus counts are very heavy in undusted fields, and also Lygus is present in fields that have not been dusted for some time. Cotton bollworms also causing injury in many fields. The virus disease of loopers is causing a great reduction in looper population in many fields. Heavy populations of beet armyworms are also injuring some fields.

In Maricopa County, bollworms, cabbage loopers, leaf perforators, woolly worms, and similar pests continue to build up in cotton, and many fields at this time support high populations of large worms. If not controlled, they could seriously damage the crop.

Spider mites have appeared in the Beardsley-Litchfield areas and Chandler and Gilbert areas. In the Beardsley-Litchfield area bollworms, spider mites, loopers and leaf perforators are causing injury.

### Disease of Castorbeans Observed Closely

DAVIS, CAL.—A new disease of castorbeans is being observed closely by University of California researchers. Kenneth E. Mueller, U.S. Department of Agriculture plant pathologist stationed at Davis, is trying to identify the suspected insect-spread virus disease with the help of Julius H.

Freitag, professor of entomology on the Berkeley campus.

Mr. Mueller said recently that the disease has been noted in fields in the past, but that the buildup is greater this year in Arizona and Imperial Valley castorbean fields. "Some infected plants have been found in the San Joaquin Valley," he said, "but it is not serious there."

In a progress report on breeding improved castorbeans, Leroy H. Zimmerman, USDA agronomist at Davis, said that some dwarf hybrids will be yield-tested next year. He has introduced into these dwarf strains a seed stalk that has male and female flowers interspersed, which should produce more seed.

### Grasshoppers Hatching In Wisconsin Fields

MADISON, WIS. (Aug. 8)—Grasshoppers in Waupaca and Shawano Counties have just completed hatching as 1st and 2nd instar nymphs were observed. In several fields 50-75 3rd to 5th instar nymphs per square yard were observed.

First brood European corn borer infestation in Jefferson, Washington, Dodge and Fond du Lac counties average about 9% in early field and sweet corn. Dissections showed that 10% of the borers were in 3rd instar, 58% in the 4th and 32% in the 5th. Pupae were not observed.

A heavy local infestation was observed in a Green Lake county sweet corn field where 32% of the plants showed recent feeding. This field had been treated 3 times to control the borers. An advanced corn field in Shawano county showed development to be slightly be-

hind the development observed in the 4 counties mentioned above. Moth emergence has begun in the Rochelle, Illinois area.

Corn leaf aphid (tassel aphid) populations are increasing in southern Wisconsin corn fields. Grant and Jefferson county had corn fields where the aphids infested up to 52% of the tassels.

### Armyworms Pester Virginia Growers

BLACKSBURG, VA.—Fall armyworms are making inroads on crops in several areas of Virginia. Entomologists at Virginia Polytechnic Institute here say that fall armyworms are scattered over the state, and there's a possibility of a general outbreak in corn and sorghum. Other crops that will probably be damaged to some extent are soybeans, peanuts, and tender grass and hay crops.

The entomologists also report that boll weevil and cotton bollworm damage is reported on the increase in states to the south of Virginia, so heavier populations and damage to cotton in Virginia is expected. Farmers were urged to watch their cotton and be ready to apply controls.

### Armyworm, Corn Pests Infest Georgia Crops

ATHENS, GA.—Moderate infestations of fall armyworm on grain sorghum in Baldwin, Seminole and Sumter Counties. Heavy infestations in Brooks County. Light infestations on Coastal Bermuda grass in Brooks and Colquitt Counties.

Corn earworm is in moderate infestation on pearl millet in Lowndes County. Moderate infestations on grain sorghum in Macon County, and the red-necked peanutworm is in moderate to heavy infestations on peanuts in Cook, Colquitt, Grady, Seminole, Miller and Terrell Counties.

Due to the scarcity of squares, boll weevil counts were made in only a few fields in South and Middle Georgia. The percent punctured squares ranged from 15 to 85. Weevils are abundant in squares and young bolls in all fields.

Cotton aphids are in light infestation on cotton in Colquitt, Thomas, Seminole, Miller, Sumter and Macon Counties. Moderate infestations in Lowndes, Cook, Grady and Terrell Counties. Heavy infestations in Berrien County.—W. C. Johnson.

### Smut Disease Threatens Texas Grain Sorghums

LUBBOCK, TEXAS—A new kind of head smut in grain sorghums is causing concern among farmers in many parts of Texas, according to Dr. N. W. Kramer, agronomist at the Lubbock Experiment Station.

Not yet a general problem, the disease occurs throughout the High Plains in light to moderate infestations, and was severe in some of the South Texas areas. On the more susceptible varieties the infections reached as high as 80 to 90%.

Dr. Kramer said he first found this type of smut about four years ago and thinks the present outbreak is caused by new physiological races. The only way to combat it, he thinks, is to develop more resistant varieties.

### High Population Counts For North Carolina Weevils

RALEIGH, N.C.—The lack of squares and shedding of young bolls along with the migration of 2nd generation weevils in the southeastern areas have made for very high infestation counts this week, (Aug. 8). The condition is rather spotty, however, due to the fact that some growers have been able to keep up a fairly effective control effort. In other words, some fields show quite extensive damage, even boll damage, while nearby fields may be almost free from weevil injury.

Bollworms are not a generally serious problem in any areas, but they are present in most fields, hence growers are urged to check the fields almost daily. Many small worms were found in the lower Piedmont this week, thus treatments must be kept up wherever the crop is still to be made.—George D. Jones.

### Red Clover Chalcid Under Control in California

DAVIS, CAL.—University of California entomologists are launching an attack against the clover seed chalcid, a pest of the alfalfa seed crop in the San Joaquin Valley.

Although a check of threshed seed shows only three to four per cent damage by the insect pest, Oscar G. Bacon, Davis entomologist, said that in some fields damage estimates run as high as 30 to 40%.

### Spotted Alfalfa Aphids Damage Colorado Crops

FORT COLLINS, COL.—Populations of the spotted alfalfa aphid are increasing in the Arkansas Valley. Field surveys indicate the largest infestation is in Crowley County where the count is 200 per 100 sweeps, according to the Colorado Insect Detection Committee. The insect also is showing an increase in Prowers, Bent, Otero and Pueblo counties.

On the western slope, populations of the spotted alfalfa aphid are lighter. Mesa County reports a build-up in the Fruita, Loma and Mack areas, where the average is between 20 and 100 per 100 sweeps.

Among corn growers, the corn leaf aphid is appearing in sufficient numbers to be of concern in Larimer and Weld counties.

Laying of eggs by the corn earworm on corn silks is under way in Prowers, Bent, Otero and Pueblo counties. Some larval damage has appeared in more mature fields.

### Webworms Hit Fields In Canadian Province

WINNIPEG — Manitoba farmers are being urged to place orders for the chemical insecticides recommended to combat beet webworms as far in advance as possible to ensure adequate supplies. New reports of webworm infestations have been received from a number of Manitoba districts with flax fields and gardens most severely hit. Toxaphene and endrin sprays are being used to combat the pests.

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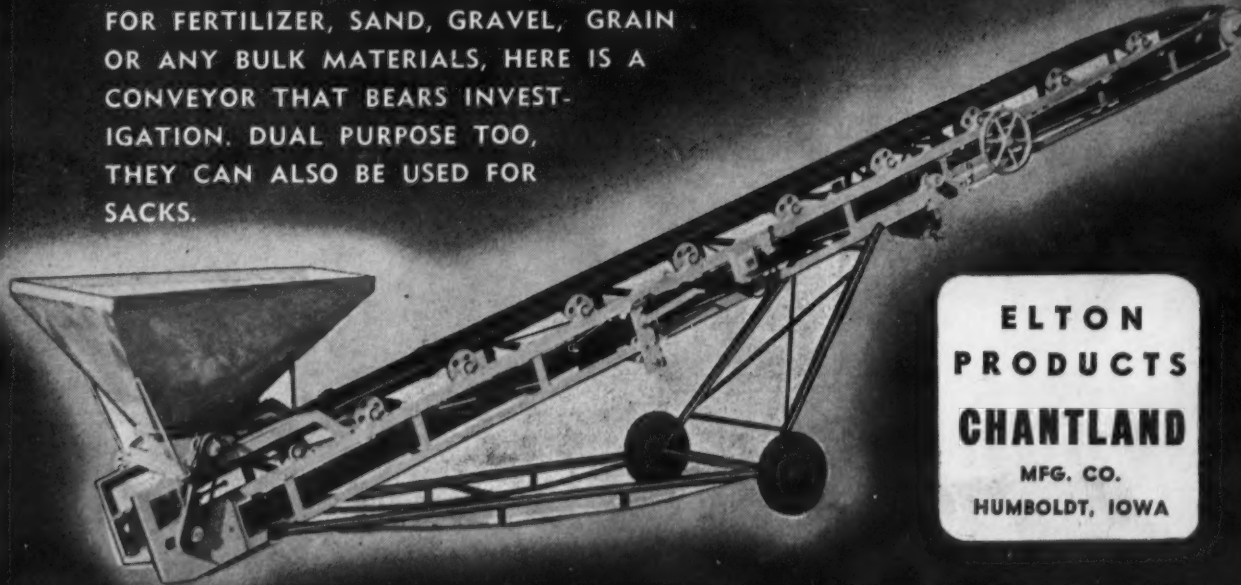
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## FARM BILL

(Continued from page 1)

exemption for cotton farms would have been stopped and the national farm acreage allotment for cotton would have been fixed as approximately 13.6 million acres which meant that the previously-existing farm acreage minimum would have been tossed into a common pot for allocation. This might have meant that the minimum allotment on many small farms could have been reduced to not more than a half acre.

In this compromise bill there is fixed a 16.6 million acre national base for cotton. Farmers will have the choice between remaining within this base with their price support fixed at not less than 80% of parity support, or the alternative of exceeding their share of the national acreage base of 16.6 million acres by 40% under which they would only obtain 65% of parity support.

In terms of the big cotton farms, this means that for middling one inch cotton, the precise dollars and cents price support for cotton will be approximately 28.50¢ a pound for middling inch cotton.

**The compromise farm bill opens up acreage for cotton to 16.6 million acres for the 1959-60 crop years. It does reduce the prospective level of support for the crop since it is expected that big cotton farms will take expanded acreage rather than accept the low acreage and higher levels of price support.**

On balance this is meaningful for the farm chemical industry next year, since it means that fertilizer and pesticide users will be practical buyers intent on lowering their cost of production on a per unit basis, and making it pay off.

As for corn, the altered House farm bill removes a minimum level of support of the disputed House farm bill of \$1.18 bu., but sets a national average level of support for all corn where ever grown, at not less than \$1.15 bu.—subject to parity change adjustments.

In short, for fertilizer industry sales plans, sights can be set on a corn crop for 1959 without any acreage allotments, at the higher of 90% of the previous three market years national average price, or \$1.15 bu.

In the case of cotton, the new farm bill will provide that the one inch middling cotton will be supported at not less than 28 plus cents pound for the 1959 crop year. This is a major concession by the Congress in this compromise bill.

But it is all to the good of the chemical industries.

## CROP YIELDS

(Continued from page 1)

more than the 1957 output and 11% above average.

**All wheat production is at a new record level of 1,421 million bu. which is 6% more than was forecast last month, 50% greater than the 1957 yield, and 27% above average.**

Oats, too, showed a big gain. Production is now estimated at 1,345 million bu., which is up 7% from last month's estimate, and is 3% more than last year's production. It is also 4% greater than average, USDA says.

Soybeans are estimated at 536 million bu., a new record, up 12% from 1957 and 81% above average.

Late summer potatoes likewise, are estimated at 36 million hundredweight, 11% more than last year and 8% above average. Fall potatoes are forecast at 174 million cwt., up 11% from 1957 and 14% greater than average.

Peach and apple yields are also over average. Peaches are estimated

at 76 million bu., 21% more than last year's crop, and 20% above average. Apples are estimated at 126 million bu., 6% more than last year and 16% above the average.

Only sorghum grain and hay were estimated at figures below last year's figures. However, both were above-average yields.

Sorghum grain production is estimated at 496 million bu., which, although 12% less than that of last year, is still about 3 times the average. Hay's estimate is at 116 million tons, 5% below 1957, but 10% above the average.

## MEETING

(Continued from page 1)

address on Monday morning, Sept. 15, and the afternoon will be devoted to tours of the University and participation in a golf tournament.

The agenda for Sept. 16 comprises

a symposium on new developments in agricultural chemicals. Taking part on this portion of the program will be Prof. L. H. J. Shebeski, plant science division, faculty of Agricultural and Home Economics, University of Manitoba, on "New Chemicals for Weed Control;" W. B. Fox, director, technical development, Chipman Chemicals, Ltd., Winnipeg, "New Developments in Insecticides;" and Dr. W. E. Sackston, officer-in-charge, botany and plant pathology division, Science Service, Plant Pathology Laboratory, Ft. Garry, "New Developments in Fungicides."

D. M. McLean, director of the agricultural department of Pioneer Grain Co., Ltd., will be chairman of a panel discussion on problems of the agricultural chemical industry.

Representing the manufacturer's point of view will be R. B. Marr, general manager, Naugatuck Chemicals, Ltd., Elmira, Ontario; the distributor, A. Lindenberg, Lindenberg Bros., Brandon, Man.; the extension worker,

R. H. Painter, livestock insect liaison officer, Veterinary & Medical Entomology Unit, Science, C.D.A., Lethbridge, Alta. E. L. Lawrence, Lilyfield, Man., will present the viewpoint of the Farmer.

Prof. J. C. Gilson, department of agricultural economics and farm management, faculty of Agriculture, University of Manitoba, Ft. Garry, will be speaker at the luncheon meeting on Sept. 16. His topic is announced as "The Western Farmer's Dilemma."

At a dinner that evening, Hon. Duff Roblin, Premier of the Province of Manitoba, will be guest speaker.

The program for Wednesday morning, Sept. 17, will comprise three talks. These are: "New and Proven Sales and Advertising Techniques Applicable to Agricultural Chemicals," by J. Burke-Gaffney, Cockfield, Brown & Co., Ltd., Winnipeg; "Weather Forecasting and Its Application to Agriculture," Dr. B. M. Currie, physics department, University of Saskatchewan, Saskatoon, Sask.

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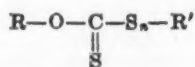
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## Industry Patents and Trademarks

2,846,298

**Method of Defoliating Plants with Sulfenyl and Thiosulfenyl Xanthates.** Patent issued Aug. 5, 1958, to Charles W. Osborn and Lyle D. Goodhue, Bartlesville, Okla., assignors to Phillips Petroleum Co. A method for defoliating a plant which comprises applying to the leaves of said plant when said plant is responsive to a defoliating agent, a small but effective defoliating quantity of a compound which can be represented by the formula



wherein R and R' are organic radicals in the class of alkyl, cycloalkyl, aryl, alkaryl, and aralkyl groups, and  $n$  is an integer which is one of 2 and 3

and wherein R and R' can be different and wherein whenever at least one of the R's is an alkyl group the number of carbon atoms in the group is not more than 16, whenever at least one of the R's is one of an aryl and alkaryl group the group contains 6-16 carbon atoms, and whenever at least one of the R's is a cycloalkyl group the group contains not more than 16 carbon atoms with 5-6 carbon atoms in the cycloalkyl ring.

2,846,351

**Methods of Using Fatty Acids to Remove Nematodes from Livestock.** Patent issued Aug. 5, 1958, to Armen C. Tarjan, Winter Haven, Fla., Vance J. Yates, Madison, Wis., and James L. Holmes, Vinta Park, Mo., assignors by direct and mesne assignments, to Mallinckrodt Chemical Works, St.

Louis, Mo. The method of removing nematode parasites from nematode-infested livestock which comprises administering to said livestock a nematotoxic dose of compound selected from the group consisting of aliphatic acids having not less than 7 and nor more than 11 carbon atoms.

### Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of \$25 must accompany each notice of opposition.

**Kwik Rid**, in hand-lettered form, for insecticides, rodenticides, crabgrass killer, weed killer, rose petal killer, and fungicide. Filed Sept. 5, 1957 by Plough, Inc., Memphis, Tenn.

### THIMET STUDY

STATE COLLEGE, N. M.—Studies to determine insecticidal residue of Thimet in alfalfa hay and its possible pathological effects on livestock will be made at the Agricultural Experiment Station at New Mexico A&M College here. Financing the studies will be a research grant of \$2,400 made to the station by the American Cyanamid Co., New York, according to Dr. J. Gordon Watts, head of A&M's botany and entomology department. The project work will be conducted by Dr. R. C. Dobson, assistant entomologist with the station, assisted by Dr. Glyn Throneberry, assistant plant physiologist, and Mrs. Pauline Moore, analytical chemist. Dr. T. E. Belling, A&M veterinarian, will make the pathological diagnosis.



W. C. Creel

**SAFETY SPEAKER**—W. C. Creel, safety director of the North Carolina Department of Labor, Raleigh, is one of the speakers scheduled to appear on the program at the annual fall meeting of the Fertilizer Section, National Safety Council, Oct. 20-21. The meeting headquarters will be at the LaSalle Hotel, Chicago. Mr. Creel has been active in safety work, both on a state and national level. He has been a member of the President's Conference on Industrial Safety since it was inaugurated in 1949, and has held top offices in state and regional safety groups. He is chairman of the supervisory training committee for the fertilizer section of NSC.



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**ALABAMA HUDDLE**—Shown in the top photo discussing fertilizer needs of Alabama soils during the Alabama Fertilizer Conference at the Black Belt Substation, Marion Junction, are, left to right, Bill Nichols, Sylacauga Fertilizer Co.; Dr. E. V. Smith, dean and director of the Alabama Polytechnic Institute School of Agriculture and Agricultural Experiment Station; and Frank Boyd, Virginia-Carolina Chemical Corp., Montgomery. Below, James C. Britton, left, API junior in agronomy from Washington County, receives the National Plant Food Institute Achievement Award at the annual Alabama Fertilizer Conference July 29. Presenting the \$200 check and key for the Institute was Mr. Nichols. Mr. Britton was selected as the outstanding junior agronomy major at the API School of Agriculture.



## Agricultural Research Institute Panel to Discuss Fertilizer Problems in Conference

WASHINGTON—The Agricultural Research Institute (ARI) will sponsor a panel at its National Academy of Sciences headquarters in Washington, D.C., on Oct. 13 of interest to members of the fertilizer industry. The panel is to discuss problems related to agriculture as experienced by the fertilizer-producing industry, according to Dr. Vincent Sauchelli, chemical technologist, National Plant Food Institute, moderator of the panel.

The panelists comprise three representatives of industry: Dr. M. B. Gillis, director of research, International Minerals and Chemical Corp., who will discuss "Technical Problems in the Fertilizer Industry"; Dr. E. D. Crittenden, consultant, Allied Chemical Corp., "Problems in the Industry Related to Research and Recommendations by the Agricultural Experiment Stations"; and Edwin Cox, chemical engineer, formerly with Virginia-Carolina Chemical Corp., "Business Problems in the Fertilizer Industry."

The ARI is an organization affiliated with the Agricultural Board, a unit of the National Research Council. It is made up of 2 categories: (1) corporations and individuals engaged in all the various phases of agricultural services: in production, processing and marketing of agricultural products; in manufacture of materials and equipment used in the production, processing and transportation of farm products. (2) State and federal research organizations, academic institutions, scientific societies and other groups related to the science of agriculture.

At present, a considerable number of firms engaged in the production of fertilizer materials and mixed fertilizers are members. However, the representation is regarded as inadequate, considering its magnitude and importance in the national economy, according to Dr. Sauchelli. "This may be due largely to the fact that the ARI has not sufficiently publicized its activities. More should be known about its contributions and potential services to the welfare of agriculture and the fertilizer industry," he says.

"Some background material at this point will help clarify the picture," he continues. "The National Research Council was organized by the National Academy of Sciences in 1916 at the request of President Woodrow Wilson, as a measure of national preparedness.

"The academy was created in 1863 by an act of Congress during Lincoln's administration. It was designed to be a non-profit unit, free and independent of pressures from political or vested interests and hence available to government agencies as a source of unbiased, objective advice on scientific matters. Through its boards and committees it can call on the entire scientific potential of the U.S. without cost except for traveling expenses.

"The Council is made up of eight main divisions among which of interest to fertilizer people are the division of biology and agriculture and the division of chemistry and chemical technology. These divisions carry on their work through permanent boards and institutes and for special projects through committees, sub-committees and panels.

"One of these of interest to our industry is the Agricultural Board: established in 1944, to advance and interpret scientific knowledge pertaining to agriculture and initiate and provide recommendations relative to agriculture based on objective analysis and to publicize technical and other pertinent information.

"Current active committees are

studying problems in agricultural equipment, agricultural pests, animal breeding, animal health, range and pasture management, soil and water conservation, soil-crop-water relationships, plant composition and fertilizer needs, and economics of fertilizer use.

"It must be emphasized that neither the council nor the Agricultural Board is a government agency. Its composition and that of its committees are not limited to personnel of the U.S. Department of Agriculture and land-grant colleges but it is free to call on all these, plus eminent scientists from all other sources including industry. It does not have its own facilities and personnel for conducting research but it can stimulate research in various fields by pointing

out the problems and possible methods of approach.

"The Agricultural Research Institute was established in 1951 and is the conception of industrial scientists who believed it would be a supporting organization for the Agricultural Board in the promotion of research and policies necessary to the best manner of utilizing the nation's agricultural resources. Since its inception, ARI has justified the hopes of its sponsors that it would be a medium for organizing the talents of scientists in industry, public agencies, scientific societies and private institutions to aid the board in its work to provide a meeting place where the discussions of common problems could proceed without restrictions."

### Commercial Availability Of Repellents Announced

NEW YORK—Prentiss Drug & Chemical Co., Inc., has announced the

commercial availability of "Prentox Tabutrex," "Prentox Pybutrex Concentrate No. 20" and "Prentox Pybutrex Concentrate No. 100."

Tabutrex, the common name for the chemical repellent, di-n-butylsuccinate, has received registration by the U.S. Department of Agriculture for use on dairy and beef cattle to repel houseflies and biting flies. It has also been registered as a roach and household ant repellent.

Pybutrex, a combination of Tabutrex with pyrethrum and piperonyl butoxide, not only repels but adds knockdown and kill to biting flies, horse flies, stable flies, horn flies, mosquitoes and gnats, Prentiss says.

### TO RETIRE THIS YEAR

COLUMBUS, OHIO—Smith Agricultural Chemical Co. of Columbus, has announced that George H. Hoeflinger, its representative in North Central Ohio, will retire this year after some 40 years of service.

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## CONFERENCE

(Continued from page 1)

the Southern and Western regional cotton mechanization projects, Mr. Thomas made the following points: application of pre-planting herbicides is not at present being recommended by state experiment stations. Cultural methods of deep plowing, he said, appear to be the main control measure at the present time.

Although post-emergence oil does an effective job of weed control, the necessity for extreme precision in application has caused a lack of popularity, Mr. Thomas explained. "This problem may be helped by the development of a selective herbicide which can be applied more easily during a wider range of cotton growth," he said.

The speaker continued by saying that, "Unless post-emergence herbi-

cides can be applied with less precision over a longer period of time, their future appears rather dim as a major means of controlling weeds."

L. S. Bird, cotton pathologist, Texas State Experiment Station, told the group that, "Each year for 100 bales of cotton ginned, there would have been two and one-half additional bales if seedling disease had been controlled." He said that stressing proper fungicide placement, can result in a yield increase of 35% and a net return of \$27 an acre. During 1957 tests at Greenville, Texas, experiments showed that a plant population of about 50,000 plants per acre is possible where fungicides are applied correctly, whereas less than 13,000 per acre survived on the control plots.

Turning to fungicide dust appli-

cation, Dr. Bird stated that the dust should be delivered to the applicators under high air velocity to prevent clogging of delivery tubes. Velocity should be reduced at the applicators to allow thorough mixing of the soil with as little dust as possible.

An additional point made by Dr. Bird was that insecticides for the control of cutworms have been applied with the fungicides with excellent results. Other efforts to achieve in-furrow disease control by applying fungicides through the hopper with the seed have not been successful, he reported.

Progress in research for the control of pink bollworm, was described by Dial F. Martin, entomology research division, Agriculture Research Service of the Department of Agriculture, Brownsville. In his talk, he reviewed the history of the pink bollworm research by USDA which he said began in 1918 following discovery of the insect in Texas the year before.

Ten years later, a research station was opened in cooperation with the Texas Agricultural Experiment Station and a sub laboratory was established at Brownsville in 1939.

He reviewed various methods of cultural control for the pink bollworm including early stock destruction, use of stalk cutters and shredders, winter cultural practices and grazing.

He indicated that many pink bollworms are taken from the field in seed cotton and may be carried over from one season to the next in seed cotton, seed, and/or gin trash. Efforts were therefore made to eliminate the larvae from the seed, but many live worms remained in the gin trash. Use of a separator, extractor feeder and gin stand eliminated about 90% of the larvae in the seed, and the most elaborate setup resulted in more than 99% removal from the seed.

Chemical control of pink bollworm was accomplished largely through application of DDT, he said. Other materials, found to be effective against the pink bollworm, include guthion, sevin, methoxychlor, dilan, and EPN. Several additional promising compounds are being tested in the field and laboratory at the present time, Mr. Martin added.

Other talks on application equipment included one by E. B. Williamson, a department of agriculture engineer of Stoneville, Miss. He said, in a panel discussion, that the self-propelled, high-clearance applicator rig is proving both versatile and economical in cotton production.

In addition to its application of both early and late season insect control operations, the machine performs other jobs also. These include the application of liquid fertilizers, herbicides and defoliants. Other equipment included on some of these machines is cutting and seeding attachments, along with spray, dust or granular application rigs.

Despite the advantages of machinery listed by various speakers at the conference, Frank Schuster, a farmer from San Juan, Texas, said that it is possible to "over mechanize" a farm. He said that financing, size of the farm, and the extent to which equipment can be used are the three limitations on mechanization. About \$100 an acre is the limit, he said, for mechanization on his own farm.

However, he said that mechanization of his operation is both feasible and profitable. This is because the various crops in his enterprise are integrated into an over-all program. "If I planted only my 400 acre cotton allotment and no vegetable or other row crops at all, it would be impossible to justify many of the machines I now find profitable," he explained.

George A. Kelly, II, executive committee chairman of the Farm Equipment Institute, Longview, Texas, told the group that the challenge of farm mechanization is still present even though great strides have been made in recent years.

Pointing to mechanization progress, he said that, through the use of power equipment, the productivity of each farm worker has increased more in the past 16 years than in the previous 120 years. Since 1945, tractor power in the Southeastern and Delta states increased some 400% as compared to an average 100% increase for the rest of the country.

Turning to costs involved in producing farm machinery, Mr. Kelly said, "While farm machinery manufacturers have been producing a better quality product, prices have been held at a minimum so that new farm machinery, which provides the greatest opportunity for lower production costs, is available to the greatest number of farmers."

He said that each year the farm equipment industry is developing and making available more efficient (Turn to CONFERENCE, page 17)



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Nitrate Nitrogen and Sodium

All of the above products are for direct application to the soil. ARCADIAN Nitrogen is also the leading source of nitrogen used in the manufacture of mixed fertilizers.

**ARCADIAN Nitrogen** is easy to sell! The ARCADIAN trade-mark is a symbol of quality and dependability to farmers. They buy and use more ARCADIAN Nitrogen than any other brand.

**When you handle ARCADIAN Nitrogen**, you are served by America's long-time leading producer of the most complete line of nitrogen products—liquid and dry—on the market. You have many different forms of nitrogen from which to select those best suited to your customer's needs.

**You benefit** from millions of tons of nitrogen experience and the enterprising research that originated many of the nitrogen products which are now generally used. Farmers are pre-sold on ARCADIAN. Your sales are supported by the most powerful advertising and promotion campaign ever conducted to sell nitrogen.

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## Illinois Fertilizer Dealer Sells Soil Test First, Then Fertilizer

By Al P. Nelson  
Croplife Special Writer

When it comes to an all-year around service for farmers, Ivan Price, fertilizer dealer at Mattoon, Ill., has it. Dealing principally in fertilizers and lime, Mr. Price keeps three trucks busy hauling these products to farmers practically every month of the year and he has a special program which stimulates such business, too.

Mr. Price is a firm believer in soil tests. When he isn't selling fertilizer or lime, he is visiting farmers urging them to have their soils tested. And if they want help with soil testing he goes right with them into the fields.

Mr. Price has an energetic helper in Leroy Shannon, local area representative of the American Agricultural Chemical Co., who frequently goes with him right into farmers' fields to see that the soil testing is done right.

"We sell a lot of fertilizer this way," states Mr. Price. "Once a farmer knows what his soil test calls for, he is then ready to order fertilizer in approximate amounts—although few of them ever order full recommendations—yet. But they'll come into the office and ask if their soil tests are in—sometimes only three or four days after they've been taken."

Mr. Price says he has many farmers who will buy, for example, eight tons of fertilizer and have it spread on 100 acres. He has one customer with 200 acres who spent \$2,500 with him for fertilizer and spreading this past year.

"We are selling quite a few tons of fertilizer per year to farmers who five to eight years back were not using any fertilizer, except a little manure," he says. "That shows how fertilizer education has been taking hold in this area."

Mr. Price says that most farmers in his area—where a lot of corn is grown—do not need to be educated on the fact that it pays to fertilize to

soil test recommendations. He says that fine educational campaigns over the past 10 years in this region are beginning to take hold. But what is holding back sales of fertilizer is the reluctance of bankers to give farmer loans on fertilizer requirements.

"The bankers are ready to loan money on just about any other farm project, except fertilizer," says Mr. Price. "I suppose this is because fertilizer goes into the ground and can't be repossessed as it's put in, whereas seed can be seen in form of crops. Whatever the reason, we need to work on bankers to help farmers fertilize more. The farmers are willing to apply more tons per acre—provided the purchases can be financed. The farmers around here know that the proper amounts of applied fertilizer pay."

Mr. Price spreads a lot of lime and rock phosphate in this area. He has storage capacity for 600 tons of rock phosphate in a large silo type structure. He has a covered drive-in at this storage silo so that a tank can be filled very quickly.

This dealer charges \$1 per acre for spreading dry fertilizer and he has seven spreaders at work during the busy season. He is able to collect on delivery for much fertilizer to large acreage corn farmers, and this helps him operate his business more efficiently, he says. Over a year his percent of loss from uncollectibles is very small.

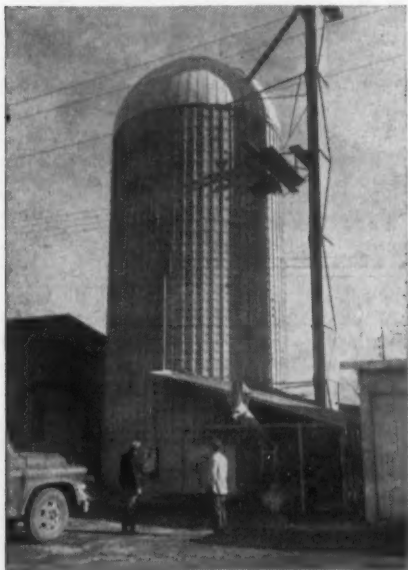
"We still urge farmers to put in a lot of test plots on their fields to compare the yields from fertilized and non-fertilized areas," states Mr. Price. "This is still one of the best ways to sell fertilizer for the coming year. A farmer will show his friends and all visitors the differences in crops on this basis, and it's good business for the farmer and fine publicity for the fertilizer dealer."

This dealer does quite a bit of newspaper and radio advertising seasonally. He uses the following slogan in his radio copy, "See Ivan Price for the Right Price."

There is hardly a time of the year but what a visitor can find from four to seven farmers seated in chairs in Mr. Price's office talking farming, crops and fertilizers in a very informal manner. If he isn't there, a couple of his office men are, and all are versed in the relation of good crops to sufficient fertilization. Farmers like this informal atmosphere, and will open up and really discuss their problems.

### FIELD DAY

EAST LANSING, MICH.—Seventy acres of corn research plots covering nearly a dozen different projects is one of the feature attractions for the Michigan State University Crops-Soils Field Day, Sept. 5. At other plots, visitors will see weed control studies in forages and corn, breeding work that is attempting to develop new forage crops for Michigan, turf fertilization and management research and variety testing with sorghum, buckwheat and soybeans.



**ROCK PHOSPHATE SILO**—Ivan Price, fertilizer dealer at Mattoon, Ill., is shown at the left looking over his 600-ton rock phosphate silo, along with Leroy Shannon, representative of the American Agricultural Chemical Co.

### SHOP TALK

## OVER THE COUNTER



By Emmet J. Hoffman  
Croplife Marketing Editor

A profitable line at the Tri-State Milling Co., Rapid City, S.D., is farm chemicals, although this department was added only a few years ago. The firm is primarily a feed milling business.

"Our firm believes in holding the price line and giving the customer enough service to keep him coming back year after year," says Chet Smith, manager of the farm chemicals division. "Such service consists of knowing the farm chemical field well, advising farmers what chemicals to use, how to apply them and when."

Tri-State does not sell anything which will not benefit the farmer. If salesmen don't think a product is what the farmer needs, the salesman explains his reasons.

This good reputation has spread and is partly the reason why the firm has in two or three years time become one of the largest farm chemical dealers in the area.

Since the region is sparsely settled, heavy sales concentration of any one product is impossible. But by handling almost every kind of farm chemical, the firm has built up a nice yearly volume. In addition to fertilizer, Mr. Smith sells insecticides and herbicides, livestock and poultry remedies, stock salt, farm supplies and also a complete line of small packaged goods to attract the city gardener and orchardist.

Herbicide sales have climbed rapidly due to the popularity of chemical weed killers. Farmers are using more of them every year. The grasshopper infestations alone account for a nice percentage of sales. And here again a knowledge of the insects and what to recommend has helped Tri-State get a good percentage of this business.

Mr. Smith keeps a close check on insects and works with such agencies as the extension service and entomologists of the area. If an infestation starts building up, he uses the company's advertising budget to warn farmers.

One way to inform farmers and sell more merchandise is by using the demonstration plots. Mr. Smith says these are very good, and tries to get plots of land on the highway or easily accessible to farmers. By using fertilizer plots and other tracts for weed killers, Mr. Smith has found this a good selling tool.

"When farmers can see what some other farmer has done successfully," he said, "it makes a lasting impression. One good demonstration plot that is successful is worth a lot more than company advertising."

Since Tri-State has promoted broilers and other feeding projects, the sale of animal and poultry sanitation products has steadily increased.

The company finds that handling farm chemicals fits nicely in with the feed business for several reasons. First, the allied sales such as of inoculants and fertilizer help increase crop yields. When selling seed, why not try to sell fertilizer at the same time? And since customers come in for feed, the selling of fertilizer and other products is much easier than trying to attract unknown customers, company officials say.

All products sold can be tied in with the company advertising. The management can use the same buildings for storage and display, the same trucks for hauling, and the

same personnel. Also it helps take the slack out of the dull seasons.

"The more products you have, provided they are selling, the better year-around business you can build," explains Mr. Smith. "We can handle farm chemicals at less expense than a dealer who starts a new business with these lines."

Every feed dealer should investigate farm chemicals, according to the Tri-State Milling Co. By adding different products, he can usually add to the company's profits without too much capital invested.

"Customer service is the key to selling these products," the manager says. "Not many farmers know all about fertilizers, insecticides and herbicides. If you play fair with them and give them the answers, you'll get a lot of business from this alone—and you won't be forced to cut prices to do it."

## Synthetic Ammonium Sulfate Exports Dip, Coke-Oven Shows Gain

WASHINGTON — Exports of ammonium sulfate during 1957 totaled 782,000 tons, which consisted of about 53% synthetic sulfate and 47% coke-oven material, the U.S. Department of Commerce reports. The breakdown was determined from a canvass of seven leading producers of the synthetic product, who are believed to account for 90% or more of the exports, the department said.

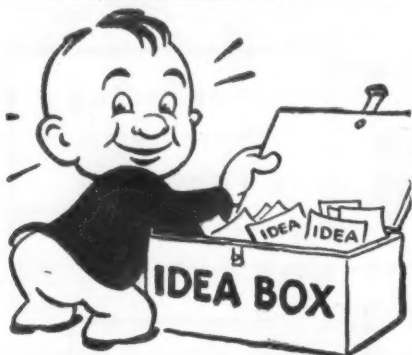
Exports of coke-oven ammonium sulfate apparently were some 60,000 tons or 19% greater in 1957 than in 1956, while those of synthetic were 40,000 tons less.

The four leading countries of destination for combined exports of ammonium sulfate were the same in 1957 as in 1956, Korea, India, Pakistan, and Cuba. However, the proportion of the total accounted for by these four countries declined from 62% in 1956 to 54% in 1957. Greece and Union of South Africa, which took increasing quantities in 1957, became the next largest destinations.

Total distribution of coke-oven ammonium sulfate in 1957, estimated by production plus withdrawals from inventory, showed an 8% increase from the preceding year, while that of the synthetic product declined slightly. Supplies of coke-oven ammonium sulfate during the current year will be considerably below those of 1957 judging by the low production rate in the early months.

Little increase in supplies of synthetic sulfate has been available to compensate for the loss in coke-oven output and some shortages were evident this spring.





## What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

### No. 6787—Spreader-Activator

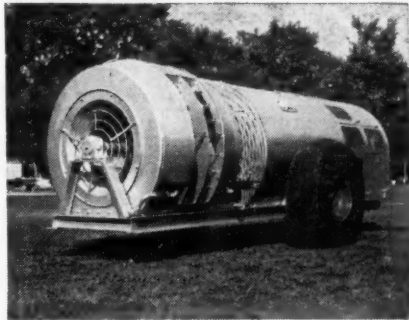
A folder titled "Colloidal X-77 Spreader-Activator" for use with herbicides, insecticides, fungicides and acaricides has been published by the Colloidal Products Corp. Colloidal X-77 is water soluble and the folder lists its characteristics which make it suitable for various farm chemicals. Check No. 6787 on the coupon and mail it to secure the folder.

### No. 6788—Hand Sprayer Literature

The B & G Co. has produced a descriptive folder and price folder for its hand sprayers. Sprayers from the ½-gal. size on up to the 2-gal. size are described. Various accessories such as nozzles, tip assemblies, valves, pump units, carrying straps and repair boxes are also described. Check No. 6788 on the coupon and mail it to secure details.

### No. 6789—Orchard Air Sprayer

A new line of orchard air sprayers, designed to handle spraying needs of both small and large orchards and groves, has been introduced by the F. E. Myers & Bro. Co. The new line, offered in a 224 series and 232 series

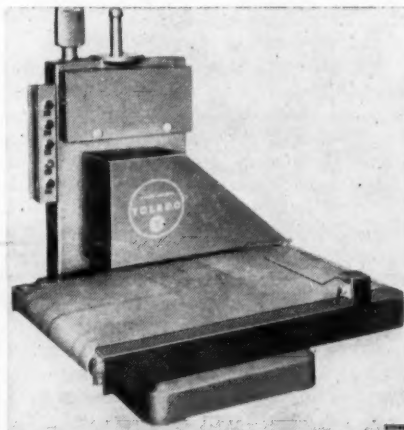


(pictured) has been field tested in application of dilute, semi-concentrate and concentrate chemicals for control of fruit pests, insects and diseases, without sacrifice to tree vigor or fruit finish. The sprayers have been designed for uniform application of all chemical solutions presently used in orchard and grove spraying. Even highly corrosive spray chemicals can be applied without damage to the sprayer, because of special manufacturing processes, it is claimed. The new sprayer line consists of five basic units, with many interchangeable parts to minimize service and replacement requirements. The 224 series air sprayer has been designed to give the advantages of air spraying to growers with small or medium-sized orchards and groves. The sprayer can be used to apply concentrate and semi-concentrate

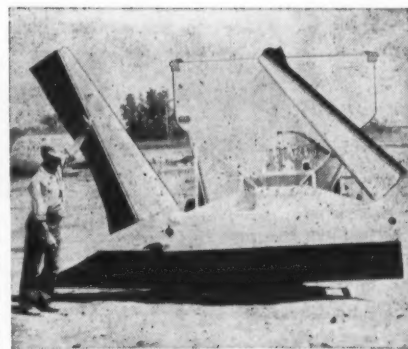
spray materials. The 224 series is available in either 300- or 400-gal. tank sizes. It features a high pressure 20-gal. a minute pump with a 400-lb. operating pressure. The material is distributed by a direct drive fan. Secure details by checking No. 6789 on the coupon and mailing it to Crop-life.

### No. 7111—Automatic Checkweigher

A new higher capacity "Toledo" automatic checkweigher, designed to govern uniformity and control costs by maintaining a constant check of items passing over the unit, has been announced by Toledo Scale, Division



of Toledo Scale Corp. The unit, identified as a model 9460, is capable of handling packages or bags weighing between 25 lb. and 200 lb., with an accuracy of .1%, it is claimed. Equipped with a belt-type motorized conveyor weigh section, items pass over the unit at a rate of approximately 20 per minute and are checked "on the run" against a predetermined weight. Check No. 7111 on the coupon and mail it to secure details.



are designed to spread fertilizer evenly over a 23 to 24-ft. width of soil with one central distributor fan. They are hinged to swing out behind the truck box when not spreading fertilizer, and rubber bumpers reduce flopping when they are down. No chains are needed to hold up the hoods and they require no internal bracing. Check No. 6781 on the coupon and mail it to secure details.

### No. 6776—Invert Emulsion Herbicide

A new weed and brush control chemical which limits the possibility of spray drift damage to crops has been placed on the market by the Dow Chemical Co. The compound is called "Inverton 245," a 2,4,5-T material formulated in an invert emulsion. The invert emulsion is a dispersion of oil particles through water—the reverse of a standard spray emulsion. This form gives the spray mixture a thick, creamy consistency. The spray is applied in large particles which do not break into a mist. This cuts the possibility of spray drift to a new low point, it is claimed. In addition, the product is based on a non-volatile free acid, cutting the possibility of damage to adjacent crops from herbicide vapors. Inverton 245 is best suited to industrial applications such as spraying along roadsides or power line right of ways. At the present time the product is not suited for use in farm fields. Check No. 6776 on the coupon and mail it to Crop-life to secure details.

### No. 7046—Vibrators

The Cleveland Vibrator Co. has available literature showing the use of "air-cushioned" vibrators which are said to reduce noise by "cushioning the vibrator piston's thrust. A small amount of air is released ahead of the piston," the company explains. "This air creates a buffer as the piston moves back and forth, reducing noise to a minimum," it is claimed. Check No. 7046 on the coupon and mail it to secure details.

### No. 6778—"Vapam" Folders

New literature—consisting of color folders—has been prepared by the Stauffer Chemical Co. describing the use of its product, "Vapam" to control weeds, fungi, nematodes, symphyla and certain soil insects in vegetables, flowers, shrubs and on turf. Directions for use are also available. Check No. 6778 on the coupon and mail it to secure details.

### No. 6777—Peanut Movie

A 67-frame, sound color slide film, "More Profits from Peanuts," is available from the United States Gypsum Co. Available for showings on request, the film may be used either with a 33½ r.p.m. record or script. It explains the uses and advantages of gypsum in growing peanuts. Secure details by checking No. 6777 on the coupon and mailing it to Crop-life.

### No. 6775—Liquid Fertilizer Cooler

A new member of the Barnard & Leas Chemical Manufacturing Co.'s plants division production line is its new liquid fertilizer cooler. This field-tested unit is designed for plants

Send me information on the items marked:

- ☐ No. 6772—Soil Booklet
- ☐ No. 6774—Fertilizer Body
- ☐ No. 6775—Liquid Cooler
- ☐ No. 6776—Herbicide
- ☐ No. 6777—Peanut Movie
- ☐ No. 6778—"Vapam" Folders
- ☐ No. 6780—Soil Fumigation
- ☐ No. 6781—Fiber Glass Booms
- ☐ No. 6782—Insecticide

- ☐ No. 6783—Compacting Process
- ☐ No. 6784—Product Cans
- ☐ No. 6787—Spreader-Activator
- ☐ No. 6788—Hand Sprayer
- ☐ No. 6789—Orchard Sprayer
- ☐ No. 7046—Vibrators
- ☐ No. 7051—Tramrail Tractor
- ☐ No. 7052—Pneumatic Vibrator
- ☐ No. 7111—Checkweigher

(PLEASE PRINT OR TYPE)

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COMPANY .....

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CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS  
PERMIT No. 2  
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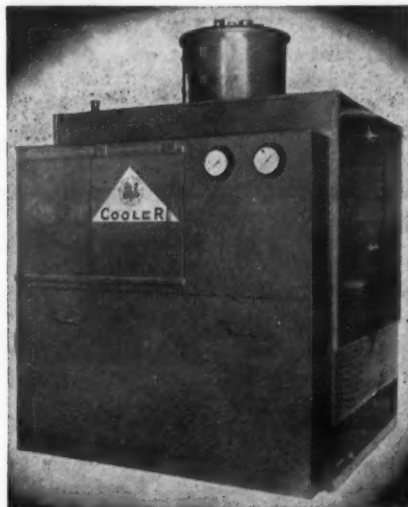
### Also Available

The following items have appeared in the What's New section of recent issues of Crop-life. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

### No. 6781—Fiber Glass Booms

New outer booms—or hoods—of fiber glass have been added as optional equipment on the Simonsen fertilizer spreader, it is announced by Simonsen Manufacturing Co. The new swing-out hoods are nearly 100 lb. lighter than those that have been standard on the fertilizer spreading unit, it is claimed. Fiber glass is not subject to corrosion by fertilizer material or rusting from the weather. Other advantages claimed for the fiber glass booms are that they require no painting and are easier to raise and lower because of their lighter weight. The fiber glass hoods





to produce 8-24-0, 7-21-0, 11-22-0 and other analyses of "hot" fluid fertilizers. This new patented cooler will maintain a reaction temperature, dependent on ambient conditions, of 220° F. at 160° F. (batch temperature) while using recycle hook-up. Flow rates as high as 200 gallons per minute have been attained. The cooler is factory assembled, enclosed in a weather-proof housing, pre-piped and ready for mounting on foundation. Check No. 6775 on the coupon and mail it to secure details.

#### **No. 6772—Soil Fumigant Booklet**

A new booklet entitled "Pestmaster Soil Fumigant-1 for Control of Imported Fire Ants and Cut-Ants" is available from the Michigan Chemical Corp. Directions are given for the use of the "Pestmaster" product for the control of imported fire ants. Details of the damage being caused to health, wild game and the over-all economy by the ants are explained. Check No. 6772 on the coupon and mail it to Croplife. Please print or type name and address.

#### **No. 6780—Soil Fumigation Brochure**

How soil fumigation can be used to rid soil of weed seeds, diseases and such soil pests as nematodes, is outlined in a new eight-page brochure published by the Stauffer Chemical Co. Profusely illustrated, the brochure describes the most effective methods of application which have been developed by the firm's field studies of the soil fumigant, "Vapam." Included are photographic descriptions of simple application techniques by rotary tiller, soil injection, overhead sprinkler irrigation, hose proportioner and basin flooding. The advantages of soil fumigation in nurseries, orchard sites, vegetable acreage and plant beds are discussed. Copies of the brochure are available without charge. Check No. 6780 on the coupon and mail it to Croplife and receive the brochure.

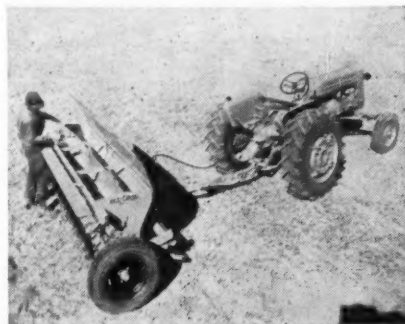
#### **No. 6774—Fertilizer Spreader Body**

The Baughman Manufacturing Co.'s "K-5" lime and fertilizer spreader body now features a lubrication-impregnated drag chain discharge designed to resist corrosion and virtually eliminate "freezing" of the body's automatic discharge system. The firm employs a special process to saturate the heavy 40,000-lb. (total strength) test malleable block chain discharge with a permanent lubricating agent. Check No. 6774 on the coupon and mail it to Croplife to secure full details.

#### **No. 6783—Compacting Process**

A compacting process for fertilizer has been announced by the Allis-Chalmers Manufacturing Co. The system uses compacting, granulating and screening equipment to transform once discarded salt fines into effective

fertilizer particles, applied in the field with A-C fertilizer attachments such as the one shown here. The mechanical compacting system is in production in several plants in potash, coke-oven ammonium sulfate, diamonium phosphate, sodium nitrite and carbon areas. Common to these producers of inorganic salts has been the unavoidable production of finely divided particles which break off or fly away before they are available for use as fertilizers. In the A-C process, these fines are fed into a com-



packing mill where they are squeezed into a continuous sheet. Broken into chunks, the product is then granulated to marketable size in a roller mill. Screens assure removal of undersized and oversized particles. Check No. 6783 on the coupon and mail it to secure details.

#### **No. 7051—Tramrail Tractor**

A new motor-powered tractor for use on overhead tramrail materials handling systems has been developed by the Cleveland Crane & Engineering Co. The unit is driven by two 5-in. diameter steel rollers under spring pressure against the bottom of the track. The tractor will develop a drawbar pull of 300 lb. Check No. 7051 on the coupon and mail it to secure details.

#### **No. 6782—Livestock Insecticide**

A new livestock spray insecticide called Co-Ral is described in detail in a six-page folder prepared by the Chemagro Corp. The folder contains information and test data on the effectiveness of the new spray material against cattle grubs, screw-worms, hornflies, lice and ticks. The life cycle of cattle grubs and screw-worms are shown along with spray application instructions for the use of Co-Ral against all major livestock insects. The product, researched as Bayer 21/199, has recently been registered by the U.S. Department of Agriculture for use on beef cattle, horses, sheep, swine and goats. The folder may be secured by checking No. 6782 on the coupon and mailing it to Croplife.

#### **No. 6784—Product Cans**

An illustrated, two-page bulletin to help the packager of dry, semi-liquid or liquid products select a can for these products has been issued by George D. Ellis & Sons, Inc. Thirty-eight different types of cans are shown in the bulletin, called product memo No. 112, and they are broken down into three different categories: Round cans, round cornered square cans and round cornered rectangular cans. Check No. 6784 on the coupon and mail it to secure details.

#### **No. 7052—Pneumatic Vibrator**

Details on a patented one-piece bin and hopper pneumatic vibrator have been announced by the National Air Vibrator Co. The manufacturer states that the unit uses body assembly bolts, has no housing springs and the pistons are not grooved to collect scale. Check No. 7052 on the coupon and mail it to secure details.

# COMING SOON:

? The Biggest News In The  
Fertilizer Industry  
In 18 Years! ?

WATCH FOR IT IN Croplife NEXT MONTH!

? SPENCER CHEMICAL COMPANY ?

Dwight Bldg., Kansas City 5, Mo.





**MODERN STORE**—The exterior of the Jones County (Iowa) Farm Bureau store is a modern center for fertilizer and farm chemical services. Below is shown the firm's "Multi-Mix" spreader and one of the two spray outfits used for custom work. The building shown in the background houses bag and bulk fertilizers.

## Variety of Services Fills Needs Of Anamosa, Iowa, Fertilizer Firm

By Al P. Nelson  
Croplife Special Writer

Agriculture today requires a multiplicity of services to bring the profit dollar to the farmer. This also means that the well operated fertilizer firm needs to have some of these services which the farmer wants.

The Jones County Farm Bureau, Anamosa, Iowa, has many services to attract farmers. They sell both bag and bulk fertilizer and they also have a spray service available to customers.

Seventy five per cent of the firm's business is still in bag fertilizer, which means they serve many small as well as large farms. A new "Multi-Mix" fertilizer spreader is owned by the company and is used extensively. Customers are charged \$1 per acre for spreading.

On spraying, the firm has one sprayer outfit which farmers can rent at 50¢ per acre, with materials extra. The firm has a second sprayer, a DDT applicator on which the charge is \$3.50 per acre, including materials.

"We do quite a bit of pasture fertilization," states George Benson, manager. "Farmers use a lot of straight nitrates and phosphates on pastures here. It's a fine field for future business, I think. There is some plowdown, but a lot of hilly land prevents more fertilizer sold in fall for this purpose."

This organization benefits from the extensive fertilizer education program put on by the farm service organization to which it belongs. These are regional education meetings, with farmers attending from a very wide area.

The farm service organization also issues a regional magazine of its own which is circulated to numerous farmers. The magazine reaches farmers monthly, contains farm news and details the services farmers can get at the various affiliated groups.

Mr. Benson also issues some direct mail of his own from the Anamosa store. He finds that postcard advertising, with a reply card is a good business builder. He has also discovered that in such postcard advertising it is best to feature just one line at a time. Copy cannot include mention of too much merchandise, otherwise the farmer will not order.

But if the farmer's attention is centered on one item on the card, fertilizer ordering, or spray service, he'll very likely use the reply card to order, if he needs the service.

This company has a fine new building in Anamosa, as well as a sizable bulk and storage warehouse across the street. The store itself is neat and modern and has excellent display. Farmers like to come here and inspect the merchandise, discuss fertilizer and spray problems and just visit.

Most people who live in and about Anamosa are very proud of the city of 5,000. Last year it was selected as the typical American small town by the federal government. A movie was

(Turn to IOWA FIRM, page 14)

## What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

Pesticide output for 1957 dipped some 10% below that of the previous year, according to a preliminary report by the U.S. Tariff commission. It said that production of pesticides and other organic agricultural chemicals amounted to some 512 million pounds.

Agronomists from all parts of the U.S. were in attendance at the annual meeting of the American Society of Agronomy at Purdue University, Lafayette, Ind., Aug. 4-8.

The Federal Food and Drug Administration said that it would raise the fee schedule for determination of pesticide residue levels as required under the terms of the Miller Amendment to the Food and Drug act.

The National Agricultural Chemicals Assn., Washington, D.C., announced that its annual fall meeting will be held at the Gen. Oglethorpe Hotel, Savannah, Ga. Oct. 29-31, instead of the Augusta, Ga. location as previously stated. The originally-set dates will remain the same, however.

Ketona Chemical Corp., Ketona, Ala., announced that it would expand its facilities for production of prilled ammonium nitrate and ammonium nitrate-limestone.

A. J. Schuler, president of the Welcome Agricultural Chemical Co., Welcome, Minn., died of a heart attack on Aug. 2.

The new farm bill, a victory for Ezra Taft Benson, secretary of agriculture, called for a new look at fertilizer and pesticide markets as a significant shift away from the parity concept loomed.

Charles M. Miller, former Monsanto Chemical Co. employee, was enjoined by the U.S. District Court in Salt Lake City from revealing any trade secrets and other information and data belonging to Monsanto. Now employed by Central Farmers Fertilizer Co., Mr. Miller had been accused of revealing trade secrets to his former employers.

A sum of \$280,000 a year was granted by Congress for a thorough study on the effect of pesticide spraying on wildlife.

Some 300 persons attended the Southwestern fertilizer grade hearing in Galveston, Texas in July.

The Midwest Regional Advisory Committee of the National Plant Food Institute approved plans for many-sided projects including grants-in-aid, scholarships, educational news services, and cooperation with bankers.

A public relations panel discussion and an imposing list of speakers are on the program for the 25th anniversary meeting of the National Agricultural Chemicals Assn. scheduled to be held at Savannah, Ga., Oct. 29-31. The association announced the tentative program plans late in July.

Paraguay exempted fertilizers from payment of import duties. Chemicals mentioned specifically in its law included commercial potash, caustic soda, sodium nitrate, sodium sulfate and sodium carbonate.

R. P. Thomas, International Minerals & Chemical Corp., Chicago, was made chairman of the National Plant Food Institute's Midwest Research and Education committee.

Kenneth D. Jacob, chief of the Fertilizer Investigations Research Branch, Soil and Water Conservation Research Division, USDA, was selected to receive the 1958 Harvey W. Wiley Award of the Association of Official Agricultural Chemists.

That food labels need carry no information about whether or not pesticides have been applied to the crop before harvest was decided by the House Interstate Commerce Committee. The ruling amended the definition of what constitutes chemical preservatives as referred to in the Federal Food, Drug and Cosmetic Act. Pesticides are not preservatives, it was brought out.

A new firm in Ecuador for the processing of pyrethrum flowers was announced. Known as Inexa, Industria Extractora C.A., the firm will be under the managership of Dr. Luis Werner Levy.

Dr. O. B. Jesness, agricultural economist, writes that the partnership between farmers and bankers, increasing over the years, is now an important factor in the purchases of ample amounts of fertilizer materials and other farm needs.

Attorneys for the plaintiffs in New York's DDT trial announced that they would appeal the decision of Judge Walter Bruchhausen who had ruled that the 14 Long Island residents who tried to stop the government's pesticide spray programs had no proof for their claims against DDT.

The U.S. Department of Agriculture announced that it would release 50 million sterilized screwworm flies, half of them males, in the southeastern states to reduce the numbers of screwworm pests in the area. The operation was conducted jointly by USDA and the states involved. An area of some 50,000 to 75,000 square miles is involved.

An article pointing out the merits of selling fertilizers the year around was presented in Croplife by G. A. Wakefield, Olin Mathieson Chemical Corp. He told his readers that both efficiency and profits will be bolstered by successfully merchandising fertilizers in the off-season.

International Minerals and Chemical Corp. announced that its grant-in-aid program for research in plant nutrition and soil fertility totaled \$125,000 for the 1957-58 period. Some 25 colleges were named as recipients of the grant.

Federal funds in the amount of \$1 million were made available to help stop the outbreak of migratory grasshoppers in Colorado, Kansas, Oklahoma, New Mexico and Texas. This represents about a third of the expected cost of spraying some 5 million acres in 46 counties of these five states. About 80% of the total acres comprise rangeland.

### SPRAY NOZZLE REFERENCE DATA Yours for the asking!

TEEJET SPRAY NOZZLES with interchangeable orifice tips... Write for Catalog 30.

TEEVALVE selector valve for booms... Bulletin 84.

GUNJET SPRAY GUNS for pressures to 800 p.s.i. - Bulletins 65, 69 and 80.

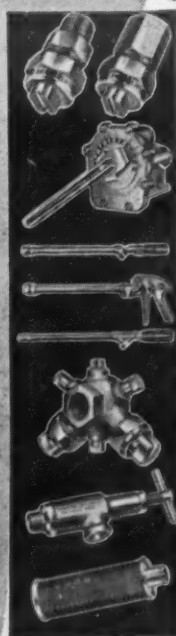
BOOMJET SPRAY NOZZLES for broadcast spraying... Bulletins 66 and 71.

PRESSURE RELIEF VALVES Bulletin 83.

SUCTION STRAINERS AND ACCESSORY EQUIPMENT Write for Bulletin 85 and Catalog 30.

**SPRAYING SYSTEMS CO.**

214 RANDOLPH ST. - BELLWOOD, ILLINOIS





## Lush Massachusetts Hay Crop Welcome But Wet Weather Poses Drying Problem

BOSTON—Rain has produced a record hay crop in Massachusetts, but drying is nearly impossible, with some Massachusetts farmers standing knee deep in grass while worrying about hay for next winter.

The same rainy weather that produced the record grass crop also makes a three-day drying period for hay almost impossible. Some farmers even feel that they were doing better last year when the drouth parched their fields. They got a good first crop in 1957 and the dry season cured it perfectly.

However, the average farmer believes he now is ahead of last year. He has lush pastures this summer for one thing. In 1957, many farmers were feeding hay to their dairy cattle because of mid-summer pasture failures.

Charles Turner, Worcester County extension agent, reported that grass production in his area since last year "has changed from famine to feast without giving farmers much more feed. There is plenty of hay, but wet weather has ruined its quality."

Walter Lewis of Chelmsford reported that he figures "it will cost me \$1,000 to replace the hay I've lost so far." He had excellent prospects for 7,000 bales from 70 acres of grass, he said. Weather conditions turned wet and he only harvested 3,000 bales of first class hay. "I'm offering 1,000 bales to fruit growers for mulch," he said. "Right now, I am definitely worse off than last year—but I still have prospects of a good second cutting."

Ferdinand Allesio of Brattle Brook Farm, Pittsfield, reported: "As things stand right now, I'd take last year's conditions. Three silos were filled at Brattle Brook Farm by cutting less than half of the 125 acres. But the remaining half of the first crop now has gone by without proper weather for hay curing. It is being cut for bedding."

Caleb Hyatt, whose Stephentown, N.Y. farm borders on Hancock in Massachusetts, said: "I'd rather have it this way instead of the way it was last year. At least, everything is growing. He said upper Berkshire farmers are about three weeks behind schedule in haying because of poor weather. His drier equipped barn is full, but he must wait for sunny weather to fill the other barn, he said."

Arthur C. Hackendorf, statistician for the Federal Department of Agriculture's New England Crop Reporting Service, said current estimates covering Massachusetts' 243,000 hay acres indicate an average of 1.75 tons per acre this year compared to 1.53 tons last year.

Massachusetts farmers will have to look toward northern New England and Canada for a supply to level the hay deficit, it was agreed here. Harold Rogers of Haverhill reported "the big problem is to get two days of sunshine and dry air." He estimated production at one-third more than last year. He pointed out, "we're using a hay roller to crack stems. It reduces the three-day drying period to two days. Moisture escapes faster from the stems after they have gone through the roller, and the stem and leaf dry evenly."

Arthur Clark of Topsfield said he has "plenty of hay that has been dried two or three times—but I could be worse off." He estimated the first hay cut this year at "about one-third more than last year."

Albert Kress of Hingham said that poor haying weather has delayed cutting and some of the hay "was a little too ripe."

He said, "I'll have to buy some hay

this winter, but not as much as last year."

Although one of Massachusetts' major agricultural crops, the hay harvest is never sufficient to meet the demand.

### Study Under Way of Fertilizer and Grain Mineral Relationships

EAST LANSING, MICH.—Michigan State University research is seeking to learn more about the relationships between minerals applied in fertilizers and the amounts in grains.

Lynn Robertson, soil scientist at MSU doing research at the Michigan Agricultural Experiment Station,

speculates that once relationships between fertilizers and amounts of minerals in grains are fully understood, it may be possible to control the mineral content of grains.

By regulating the fertilization program, a farmer might produce a grain which contains a certain uniform amount of minerals designed to fit a specific use.

This research is based on the belief that mineral content of farm grains may some day be an important pricing factor. According to Mr. Robertson, when certain minerals are added in the form of fertilizer, the content of other minerals is affected. For instance, he said, when potash is added, the potassium content of the grain will be greater. But at the same time, the magnesium and calcium contents will be lowered. Such factors influence grain quality.

These differences in mineral content are important in making up today's precision livestock and poultry feeds as well as in other products

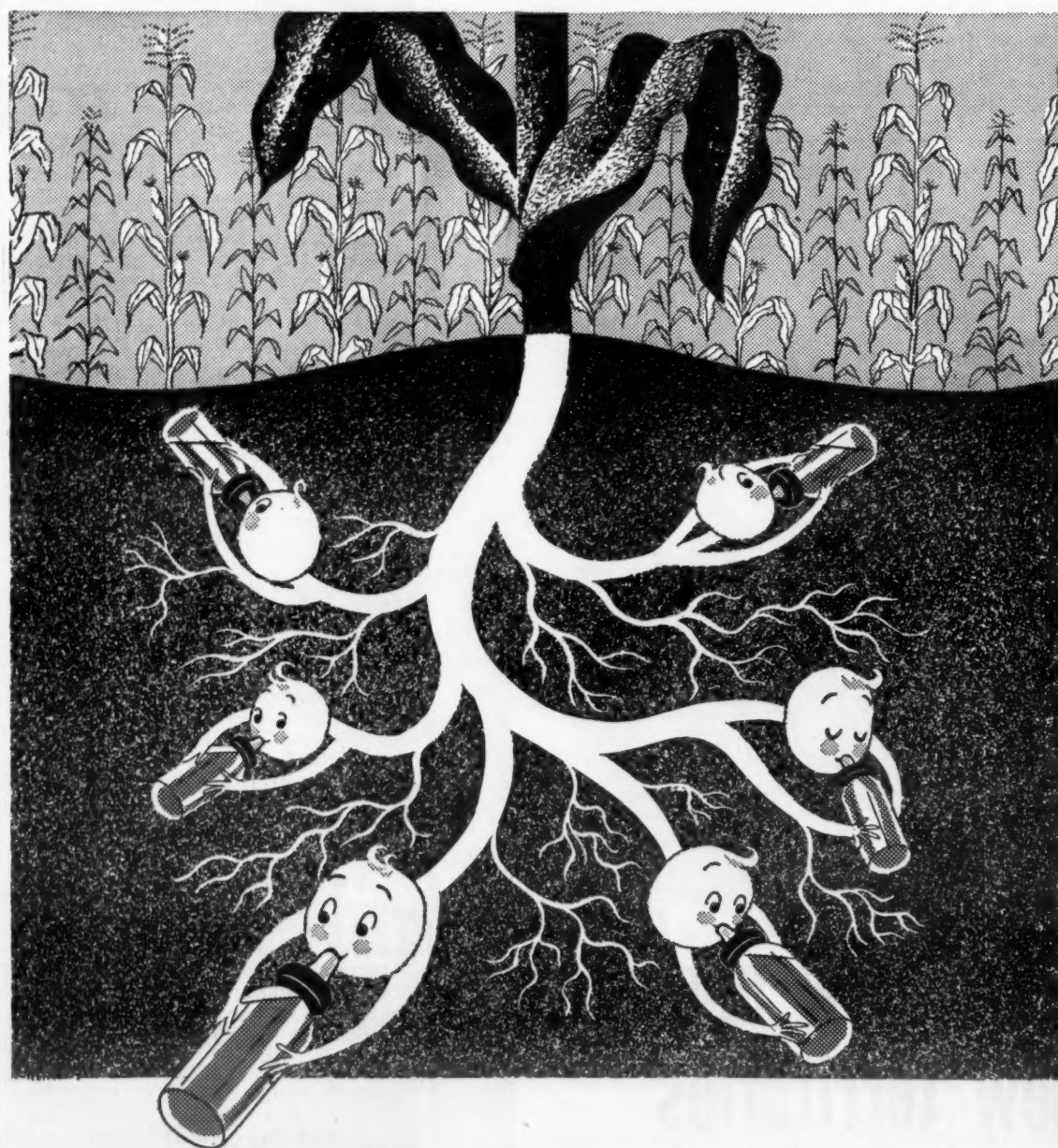
where large amounts of grains are used. Many manufacturers are no longer relying on previously recognized tables of average amounts because of wide variations.

Some large feed manufacturers and other quantity users of grains are also becoming particular about grains they buy. Buyers are trying to get supplies from one source each year to keep the mineral content as constant as possible.

Many farm grain users run chemical analyses to find out exactly how much of each mineral is present. This helps them use grains more efficiently and find the quality of grain that best suits their needs.

### NEW MEXICO TONNAGE

STATE COLLEGE, N.M.—Fertilizer shipments in New Mexico during the second quarter (April-June) of this year totaled 14,908 tons, the State Feed & Fertilizer Control Office reports.



## Your crops are "bottle feeders"

...If they weren't, we wouldn't need to chemically compound the plant foods in AMMO-PHOS fertilizers to make them so highly water soluble... so easily digested by "non-chewing" plants.

Yes, mechanical mixing is easier, but chemical compounding—economically possible only in a large plant like ours—gives you the best complete fertilizer, because water-solubility does make the difference... in higher yields... in reduced production

costs... in more profitable farming.

So why use inefficient fertilizers with lower percentages of usable, water-soluble nutrients when you can use efficient AMMO-PHOS? More efficient because its nitrogen, phosphorus and potash are all usable and readily available to sprouting or growing plants... more efficient because its concentrated, high-analysis form and uniform pellets reduce handling and application costs. Grades available for every crop and soil condition.

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Doing Business With

## Oscar &amp; Pat

By AL P. NELSON  
Croplife Special Writer

A tall, lanky man in a dark suit came slowly into the sales room of the Schoenfeld & McGillicuddy farm supply store and began browsing around several islands. He was Hilton Baxter, a house to house salesman, who also had a large garden. He practiced organic gardening.

"Ah, some sunflower seeds," he said happily, picking up a small bottle. "Organic compost—just the thing for my muskmelons. I'll apply some and watch them grow to full maturity if I soak the soil. They're pretty big now, but I ran out of steer manure last spring when I planted them. Didn't have quite enough."

Oscar looked up with an annoyed expression on his broad face. These

organic gardeners gave him a pain. Always so finicky about what they bought. But Pat had insisted that organic and inorganic farmers and gardeners, both were legitimate customers in a garden supply establishment. Their dollars were of the same value—about 50¢ compared to 1940 dollars.

Hilton Baxter walked to the counter with an assortment of bottles and packages. His biggest purchase was a 25-lb. sack of organic compost.

"Oscar," he said, "this store is the only one in town where we good gardeners can get some of these organic items. Your stock is growing in organics. I hear lots of my friends saying that, and they like it. Now I look forward to the day when you'll throw out all these poisonous, chemical fertilizers and insecticides and

stock only organics. Boy, what a day."

"Throw them out!" Oscar repeated slowly, all thoughts of discounts now slipping from his mind. "We should stock the whole place with organics! Ach, you should want that we go bankrupt? We only haf those organics in stock to sell more goods. We don't believe in them. Our chemical fertilizers and insecticides are just as good as organics, maybe better. All the professors say so."

"Propaganda! Propaganda!" cried Mr. Baxter angrily. "I don't believe a word of it."

Oscar's eyes narrowed. "Propaganda? That's what the Russians say when they get in a corner. Ach, you ain't Russian, are you?"

The customer's eyes went wide. "No, I am not a Russian. How dare you talk to me like that?"

"How dare you talk like that about our goot fertilizers and insecticides?" Oscar came back.

"I have a good notion not to come here and buy anything anymore," snapped Mr. Baxter. "In fact, I think I'll put every item I picked out right back where I took it."

"Ach, do that and see if I care," snapped Oscar. "Farmers are raising 215-lb. hogs, lots of grain and other crops on land fertilized by our fertilizer. It's goot. I know it's goot."

At this moment Pat McGillicuddy came in. He was just in time to hear Hilton Baxter say. "Chemicals in food are no good for a human being. You're wrong. You're wrong, Schoenfeld. I'll never come here to buy again."

"Wait a minute, Mr. Baxter," said Pat evenly. "Have you got a few minutes?"

Something in Pat's tone quieted Mr. Baxter a little. "I suppose I have a few minutes. Why?"

"Just step into my office," Pat said graciously. "I'd like to show you something."

Tall, lanky Hilton Baxter came into the office area, sat down in a chair with his back toward the glowering Oscar.

Pat smiled encouragingly. "I guess folks go on arguing about organic and inorganic fertilizer day in and day out," he said. "So, since there's so much talk about it, I started making a scrapbook of the evidence on our side. Are you man enough to hear it?"

Baxter flushed. "Will you listen to my side of it, too?"

Pat nodded. "I will."

He then opened his scrapbook and showed Mr. Baxter his clippings. They were mostly newspaper and magazine articles and some official reports.

"Here's what Prof. E. H. Fisher, entomologist of the University of Wisconsin, said at a convention recently," Pat explained. "He said that if people use chemicals properly, that the risk to humans is comparatively small."

Baxter snorted. "So long as there is risk there, why use any chemicals at all?"

Pat smiled. "The natural soil is full of risks, too. The tetanus germ, for example. And others. Now look at this article from Parade Magazine from a National Food Conference. Experts said that chemical fertilizers and insecticides when used scientifically, produce foods fully as nutritious as those produced by so called organic fertilizers."

"Propaganda!" snapped Baxter. "I don't believe it."

"Careful," cautioned Pat. "You agreed to listen. Now look at this one

from Oscar Lorenz, University of California and vice chairman of the state department of vegetable crops. He says that the assertion that human or animal life may suffer is illogical. He says that countries like the U.S., Canada, Denmark and Sweden which use many chemicals on their land, have a high longevity rate. This would not be true if the chemical fertilizers were poisoning either the crops or the soils on which the crops are grown.

"And he says," continued Pat, "that the organic nitrogen must first be changed to inorganic before plants can use it. Practically all of the nitrogen is absorbed by plants in either the nitrate or ammoniacal forms."

As Pat talked, Hilton Baxter's lips compressed tightly. When the dealer had finished, Baxter launched into a tirade against chemical fertilizers. He talked so loudly that Oscar could stand it no longer, but got up and walked into the warehouse where he bawled out Red Sorenson, an employee, for not sweeping the floor clean enough.

Finally, when Baxter had finished, Pat said, "Well, we've both had our say. We both grow food. I still maintain the organics can never get enough of their materials to satisfy the demand. But you still need some hoes, rakes, garden seeds and things like that. So we invite your business."

"You do?"

"Why sure," said Pat. "It's a free country. One can talk, and one can answer back. We've done that. Now can I sell you anything?"

Hilton Baxter looked puzzled. "You're a queer fellow, Mr. McGillicuddy. Yes, I will buy those things I put back on the shelf. I don't want to go all the way to Elton to get them. It's too far. But I won't buy from that—that—" he turned toward Oscar but that partner's chair was empty. "Hereafter I'll buy from you only."

## IOWA FIRM

(Continued from page 12)

made of various aspects of Anamosa life, including its industries and organizations. This movie was used by the U.S. Information Services to show to audiences abroad, to give them an idea of what constitutes a typical American town.

Naturally this has brought a great deal of publicity to the town, and townspeople and farmers alike enjoy it.

The Jones County Farm Bureau, along with other Jones County merchants in Anamosa, recently staged a Ridiculous Days Sale which was very successful. For this three-day event merchants moved odds and ends stock out on the sidewalk on counters. The merchants and clerks dressed in outlandish costumes, grew beards for the event, and everyone had a good time.

Some merchants were dressed like women, a la Jane Mansfield. Others were dressed like cowboys, gypsies and Indians. This added color to the Ridiculous Days Sale. The event also attracted hundreds of extra shoppers.

For the occasion, the local newspaper printed a special edition, in which merchants published "crazy" ads. Some preposterous stories about the future of Anamosa were also printed, with the reader required to sift the false from the true or just plain "gaff."

All in all, it made for publicity that resulted in more crowds in local stores and consequently more buying. It also reduced the supply of odds and ends stock.

## NORTH CAROLINA MEETING

PINEHURST, N.C. — The Carolinas-Virginia Pesticide Formulators Assn. will hold its annual meeting at the Carolina Hotel, Pinehurst, N.C., Nov. 19-20, according to an announcement by W. R. Peele, secretary-treasurer of the group, Raleigh, N.C.

This is KALO's striking new gold foil labelled can. Here's another good reason why KALO Legume Inoculants are the line you should carry!

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by Myron E. Lusk, President and Research Director  
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KALO Legume Inoculants.

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KALO INOCULANT COMPANY, Quincy, Illinois





## FARM SERVICE DATA

### Extension Station Reports

More than half of Minnesota's fields need more plant food than they're getting. That conclusion comes from John Grava, soils worker in charge of the soils testing laboratory at the University of Minnesota.

For example, recent test samples from the Clarion-Nicollet-Webster soil area in southern counties show that about 60% of these soils need more phosphorus.

Also, tests showed 56% of the fields there could use more fertilizer containing potassium. This is despite the fact that these soils are often thought to be high in this nutrient.

In the same area, about a third of the soils need some lime.

Summaries from other areas show that more than 75% of the soils in a dozen west central counties are low in phosphorus. And in the area north of Minneapolis-St. Paul and in the extreme Northeast, 90% of the samples have been low in potassium.

Yet, within these and other areas of the state, there have been wide variations in soil needs from farm to farm. This, Mr. Grava says, means that important as they are, the summaries are no substitute for individual, regular farm soil testing.

★

Fertilizer continues to be one of the best investments a farmer can make, reports Dr. Garth Volk, chairman of the agronomy department of Ohio State University.

Dr. Volk estimates that plant food can return about \$3 in increased crop value for every \$1 a farmer invests, when average amounts are used.

One of fertilizer's major values is in helping increase the soil's crop producing efficiency. The greater the efficiency, the greater is the net return to farmers, says Dr. Volk.

Citing the corn crop as an example, Dr. Volk reports that it costs about \$55 per acre to produce a crop whether the yield is big or small. These are fixed costs which do not change much from farm to farm, he says.

"Now supposing a farmer adds 500 lb. per acre of a nitrogen-phosphate-potash fertilizer," says Dr. Volk. "On good land with favorable growing conditions the corn yield might jump to 90 bu. per acre."

"The farmer's total costs would average about \$72 per acre and he would have a net income over and above all costs, somewhere around \$41 per acre for his corn."

"If he didn't use fertilizer and produced only 45 bu. of corn per acre, his net profit probably would be about \$1.25 per acre."

"So the increased crop producing efficiency a farmer gets with the help of plant food could mean the difference between a \$41 per acre net profit on fertilized corn and \$1.25 per acre on unfertilized corn."

★

Farmers might think it wasteful to fertilize land that will yield more than 100 bu. of corn per acre without fertilizer.

But they shouldn't be too sure. University of Minnesota soils scientists last year experimented with land that produced 138 bu. of corn where not a single grain of fertilizer was used.

On another part of the field, the researchers found that adding 80 lb. nitrogen and 80 lb. phosphate per acre boosted yields by 21 bu., to 159 per acre. The yield increase was

worth about \$25 and the fertilizer cost \$12. Net gain in profit: \$13 per acre.

The tests were conducted at the Southern Experiment Station, Waseca, by A. C. Caldwell, soils scientist, and John Thompson, station agronomist, the land was in corn for the second year in a row.

This soil was naturally high in fertility; it was in permanent pasture for about 25 years before being plowed in fall, 1955.

Of course, there was a limit to how much fertilizer could be applied. Higher rates on this soil didn't pay.

Nor did it pay to fertilize this land where soybeans were planted.

★

Can antibiotics and organic chemicals be used as internal "medicines" to protect trees from oak wilt?

This possibility is being investigated by University of Wisconsin tree disease specialists in their continuing search for improved methods of controlling the oak wilt disease. Some of these materials have proved effective in varying degrees. But it is still too early to say that any of them may be the answer.

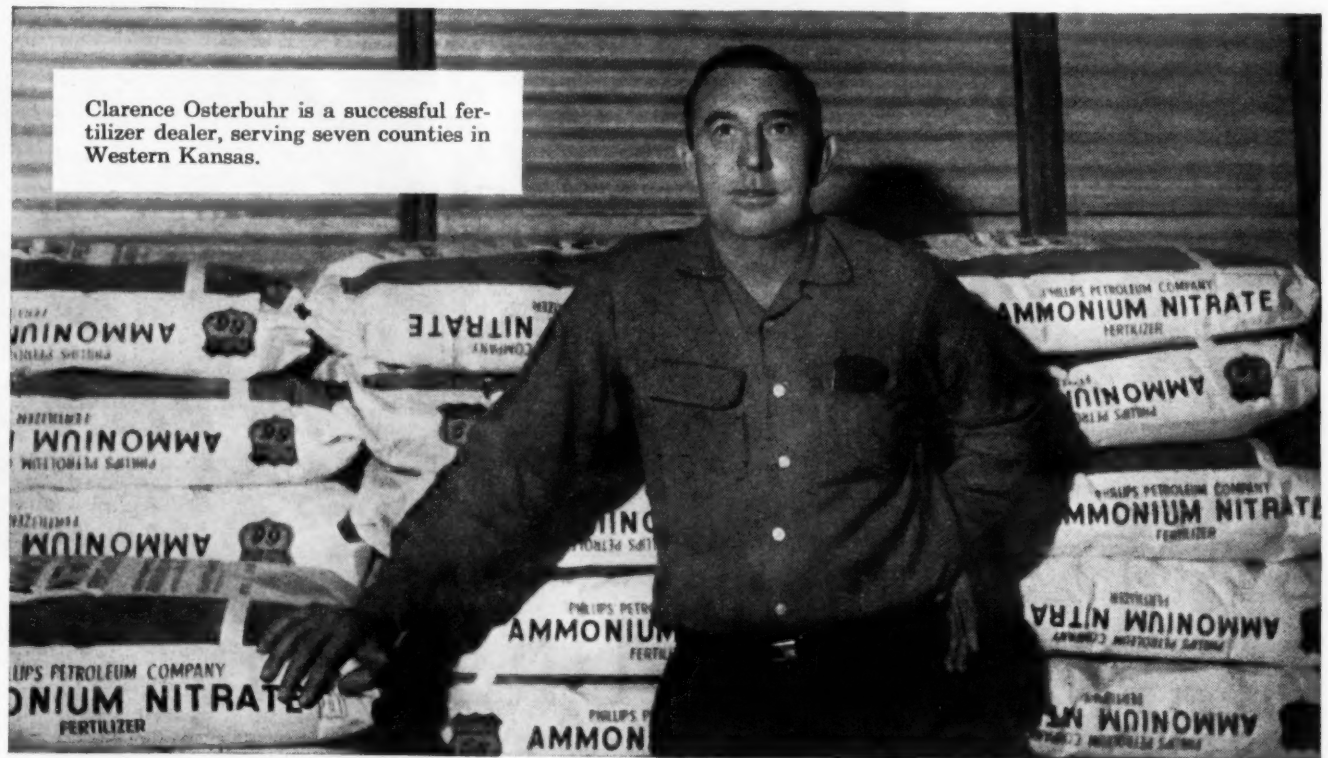
**Oak wilt is a fungus disease which threatens a valuable timber resource of the country. The scientists have worked out various control methods which can be applied in varying situations. However, the internal use of organic chemicals and antibiotics in individual, highly valued oaks to prevent the wilt is a recent development.**

In testing the effectiveness of these

materials in preventing oak wilt, Wisconsin scientists W. R. Phelps, J. E. Kuntz, and A. J. Riker tried out different ways of applying them to see which gave the best results in controlling the disease. They injected the materials in the trunks of some trees; sprayed them on the leaves of others; and applied them to the soil around the base of still other trees.

The materials which proved effective in some degree against the oak wilt fungus included both organic chemicals and antibiotics. About half the trees stayed healthy following certain of the treatments.

The most effective treatment was injection of the antibiotics into the trunks of the trees before the trees were inoculated with the oak wilt fungus. Also, more than one treatment seems to be needed for best results. For example, it took four treatments of one antibiotic to keep half the trees free of the disease; one treatment prevented symptom development in only five per cent of the trees.



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Clarence Osterbuhr  
ANAMO CO., INC., Garden City, Kansas



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# WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



## PURSLANE

(*Portulaca Oleracea*)

### How to Identify

The stems of this plant are prostrate, or turned up at the ends. They sometimes form mats a foot or more in diameter from a fibrous root system. The leaves are alternate or clustered, succulent, broadest near the apex, and smooth. They are pale to light green in color. Flowers are small, yellow and formed in the axils of the leaves and stems. Many tiny, black, shiny, flat rough seeds are produced in each pod.

### Characteristics of Purslane

This plant is found in cultivated fields, gardens, and in waste places. The purslane is drouth-resistant and grows best in hot, dry weather. It is often confused with prostrate pigweed, but distinguishing characteristics of purslane lie in the

fact that the leaves and stems are much smoother and fleshier than pigweed. Purslane is an annual, reproducing by seed. Its root system is fibrous, and the plant is often called by other names including Pursley, portulaca, and pus-sley.

### Control of Purslane

The plant is susceptible to a number of chemical herbicides which kill the entire organism. Cultivation or hoeing are successful providing the work is done when the plants are small. Scattered plants should be pulled and piled or burned if seeds are being formed, agronomists say, since the plant has the ability to continue to live and its seeds to mature even though they may be pulled or cut off from the root.

—Illustration of Purslane courtesy of Dow Chemical Co., Midland, Mich.

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## Speakers Announced For 2nd Safety School Sponsored by NPFI

WASHINGTON—The second of five regional accident prevention schools for fertilizer plant personnel in the Southeast region will be held at the Heart of Atlanta Motel in Atlanta, Ga., Sept. 4-5.

Sponsoring the two-day school is the Fertilizer Section of the National Safety Council in cooperation with the National Plant Food Institute. Quentin S. Lee, The Cotton Producers Association, Atlanta, is director of the school.

Other regional safety schools included the opening two-day gathering at Cornell University, Ithaca, New York, Aug. 14-15, and the Mid-Western session scheduled to be held at the National Safety Council's headquarters, Chicago, Sept. 10-11. The Southwestern school is slated for Austin, Texas, while the Western meeting is scheduled for San Mateo, Cal. Dates have not, as yet, been set for the two latter schools.

Speakers and their topics for the Southeast school include the following:

Thursday, Sept. 4—8:30 to 9:30 a.m., registration and distribution of materials, following which, George L. Pelton, vice chairman, Fertilizer Section, National Safety Council, will welcome the group. Topics and speakers will be: "Know Your Accident Problem," Prof. William N. Cox, Jr., Georgia Institute of Technology; "Getting the Facts—Inspections," Joe Winkler, assistant Southern division engineer manager, American Mutual Liability Insurance Co.; "Getting the Facts—Investigations," W. C. Creel, safety director, Department of Labor, State of North Carolina; "Getting the Facts—Accident Analysis," John Gallagher, senior industrial engineer, National Safety Council; "Building the Team—Committees," Quentin S. Lee, The Cotton Producers Association; "Building the Team—Training," P. Andrew Springer, safety engineer, Atlanta Traffic and Safety Council; "Building the Team—Incentives," (speaker to be announced); "Building the Team—Outside Assistance," John Gallagher; film, "The Secret of Supervision;" and a question and answer session.

On Friday, Sept. 5, another film, "Teaching Safety on the Job" will be shown; then "Solving the Accident Problem—Housekeeping," by W. A. Stone, superintendent, Wilson & Toomer Fertilizer Co., Jacksonville, Fla.; "Solving the Accident Problem—Health Hazards," Hugh Parker, director of industrial hygiene division, Environmental Health Services, Georgia Department of Health; and "Solving the Accident Problem—Electrical Hazards," Carl Watts, safety engineer, Liberty Mutual Insurance Co.

## CONFERENCE

(Continued from page 8)

equipment for cotton production. "In great part, this is made possible through the splendid cooperative relations our industry has with public service research workers in keeping abreast with the changing needs in cultural practices, weed control, defoliation, disease control and harvesting," Mr. Kelly concluded.

Because progress in mechanization and other technology of cotton production has reached the point where they can no longer be considered as separate areas of cotton production, Claude Welch, director of the National Cotton Council's production and marketing division, announced that in future years the conference will be merged with the Beltwide Cotton Production Conference. The Cotton Council sponsors both conferences in cooperation with other agricultural organizations.

Thus, the 12th annual Beltwide

Cotton Mechanization Conference will be the last such to be devoted entirely to this subject, Mr. Welch indicated. The first such conference was held at Greenville and Stoneville, Miss. in 1947. At that time, less than 5% of the cotton crop was produced under fully mechanized conditions, as compared to almost a third of the current crop. Meetings during the past years have been generally credited with stimulating and accelerating the trend to greater cotton production efficiency.

## Agronomy Day Set For September Date

DAVIS, CALIFORNIA — Alfalfa will be featured at the fall agronomy field day set for Friday, Sept. 12, at the University of California, Davis.

The day-long program will include the latest information on cultural practices, pelleting, the breeding program, and alternate crops for alfalfa, according to Maurice L. Peterson,

chairman of the agronomy department at Davis.

Discussions on cultural practices will cover weed control, irrigation, and new ways to analyze hay for quality. Registration for the field day will begin at 9 a.m. on the campus. A special noon program is being arranged.

This year's field day will be devoted to just one major California crop, Mr. Peterson said so that growers can learn the latest developments in various phases of the University's research program on alfalfa. Speakers will include members of the agronomy, animal husbandry, and agricultural engineering departments.

## Takes New California Post

SACRAMENTO—W. Ward Henderson who has held a series of responsible positions in crop reporting, has succeeded Niels I. Nielsen who has retired as chief of the Bureau of Agricultural Statistics, Cali-

fornia Department of Agriculture.

Mr. Henderson, who has been Mr. Nielsen's assistant in directing the California Crop and Livestock Reporting Service, is a native of Hardy, Nebraska, and completed his undergraduate work at the University of Nebraska. He took graduate work at Rutgers university and joined the crop reporting service in New York.

## LIVESTOCK REPELLENT SOUGHT

MEMPHIS, TENN.—The research department of American Smelting and Refining Co. is seeking a livestock repellent, rather than a livestock insect repellent as reported in the Aug. 11 issue of Croplife. Harold B. Jones of the firm's agricultural research department points out that repellents are wanted that will discourage livestock from entering treated areas. Candidate materials are being screened through a grant-in-aid setup. Mr. Jones states that further information is available from him at 2772 Natchez Lane, Memphis.



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## Despite Rains and Insect Pests, Crops in Mid-South Look Good

MEMPHIS—Crops in the Mid-South are making progress despite insects and the weather. Arkansas, Tennessee and Mississippi extension service officials report cotton, corn and soybeans continue to make good progress despite the triple threat of boll weevils, spider mites and rain.

Cotton is growing rapidly and fruiting heavily, and soybeans are reported in good condition generally. Experts say the corn crop is the best in many years.

Arkansas officials report that boll weevils are increasing rapidly in number in the hot humid weather. Some pesticides are being applied. The week of Aug. 10 was expected to be the critical one in the boll weevil control program. Bollworm moths continue to emerge and egg deposits are heavy over most of the state.

Mississippi officials are generally

optimistic about crop prospects. They say that corn is the best in years, cotton is fruiting heavily and pastures are holding up well.

Recent rains have continued to hinder cotton poisoning and other farming operations. Infestations of cotton insects are reported serious in some areas although boll weevil population is reported lower than normal in other areas.

Richard Cooper, Carroll County Agent, says farmers in his county are getting a buildup of weevils and should expect more unless the rains stop. "Cotton of all ages is fruiting well and the prospects for a good yield have not failed. The corn crop is good to excellent with most of it already made or with sufficient moisture in the ground to make it," Mr. Cooper said.

Ernest Weatherly, Pontotoc County Agent reports that boll weevil numbers are building up to serious proportions and effective insecticide control is difficult because of frequent rains.

H. W. Luck, Tennessee assistant agronomist at Jackson, says spider mites are causing some cotton defoliation in areas of heavy infestation. Boll weevils are also appearing in greater numbers in west Tennessee cotton fields. He describes most crops in the area as "looking very good," however.

## Fire Ant Controversy Continues in Texas

HUNTSVILLE, TEXAS—A controversy on how to kill fire ants in Texas is going on between agricultural workers and wildlife enthusiasts. The ants can be held in check by the use of pesticides, but the dissenters are afraid it might also kill game birds, fish and small animals.

At last account, the fire ants had spread as far west as San Antonio and seem to have taken a liking for Texas. At least they are marching on like an army, and digging permanent fox holes at every stop.

Spot applications of pesticides have

brought them to a complete halt. In Hardin County where one 2,500 acre tract of improved farm land was treated, the owner, Frank Carpenter, said the operation had been a complete success. He admits that some wildlife was killed, but claims the use of insecticides is justified, that the fire ant is a bad actor and must be halted.

Some of the dissenters on chemical control think the fire ant has been built up as a monster when he is not much different from two other varieties already in Texas. It is admitted that the South American variety bites harder, however. But just how hard they bite is also a debatable question. One man who got several of the ants in his shoe said it felt like running barefooted over hot coals. He is now on the side of the anti-ant crusaders.

A middle-of-the-road farmer in Hardin County wants the ants stopped, but says that armadillos will run the fire ants out of Texas if given enough time. He claims to have witnessed the long-nosed rooters digging into ant beds and eating the eggs. However many people with truck gardens say the armadillos are almost as big a menace as the ants.

Proponents of the chemical control program say that while the insecticides might kill some wildlife, eventually the ants will destroy many times more. Records show they have killed several animals.

## South Carolina Tonnages Increase in July, '58

CLEMSON, S.C.—Fertilizer tonnages compiled from invoices submitted by registrants in South Carolina, were 60.6% greater for the month of July, 1958, than they were for the same period of 1957, according to a report issued by Dr. Bruce D. Cloaninger, director of the department of fertilizer inspection and analysis.

According to his report, nitrogenous materials rose from 4,244 tons in July, 1957, to 7,699 tons in the same month this year for an advance of 81.4%.

Mixed fertilizer went from 5,673 tons to 8,369 tons for an increase of 47.5% and landplaster sales improved from 799 tons to 1,627 tons, or 103.6%.

Sales of both phosphatic materials and potassic materials were down considerably from last July's total. Phosphatic materials were reduced from 389 tons to 236 tons; potassic materials from 143 to 133 tons.

## USDA Announces Home Administration Loan Totals

WASHINGTON, D.C.—The farmers Home Administration made and insured loans totaling \$330,162,000 in the fiscal year 1958, the U.S. Department of Agriculture has announced. This compares with \$356.3 million advanced in fiscal 1957 and an average of \$315,651,000 for the past five years.

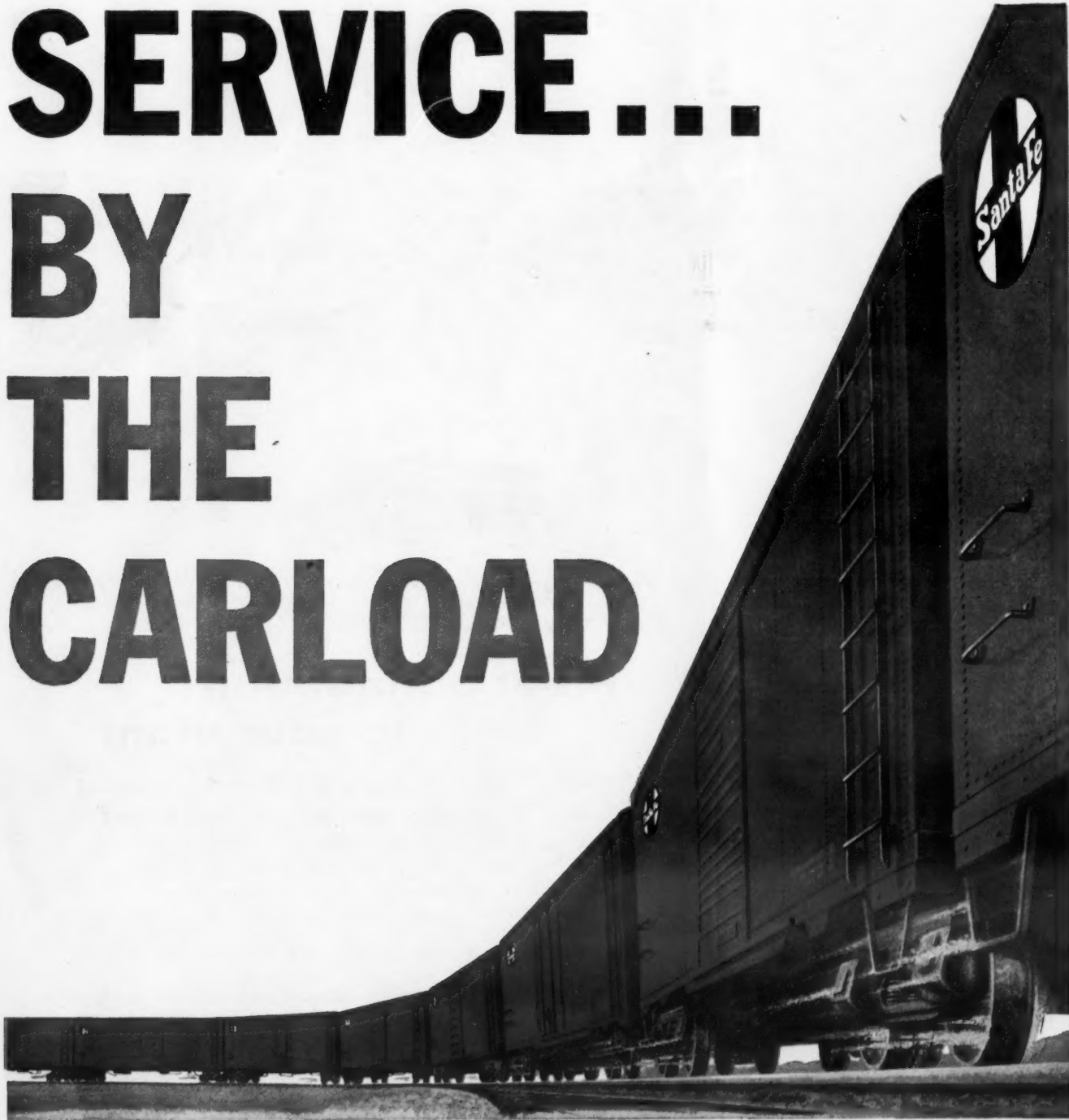
An expansion of the farm housing loan program and an increase in the volume of insured loans—both of which occurred mainly in the last quarter—highlighted the year's operations.

The volume of housing loans made per month rose from an average of \$1,931,000 during the first three-quarters of the year to \$8,151,000 during June. The program was expanded in March as an anti-recession measure and to help farmers construct and repair farm houses and other farm buildings.

## SOIL SCIENTIST APPOINTED

STATE COLLEGE, N.M.—Thomas U. Yager, assistant state soil scientist with the Soil Conservation Service, has been appointed territorial soil scientist for the SCS in the Caribbean area effective Aug. 24. His new headquarters will be San Juan, Puerto Rico.

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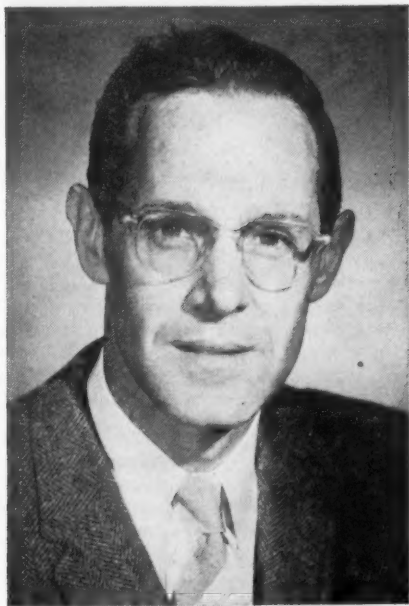
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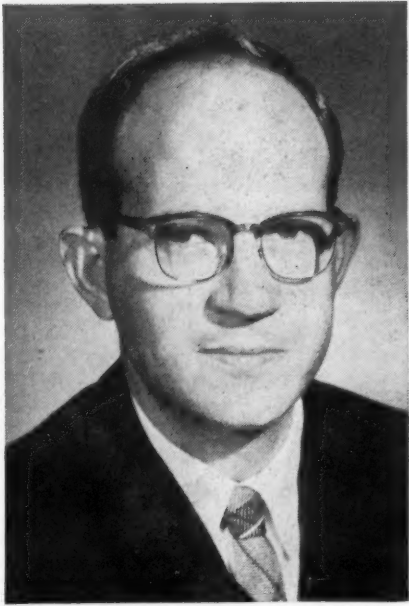
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Dr. Donald H. Ford



Fredrick D. Morrison

### Eli Lilly Names Two In Research Department

INDIANAPOLIS, IND.—Eli Lilly & Co. has announced the appointments of two men to fill positions in the company's agricultural research department.

Dr. Donald H. Ford, a plant pathologist, will conduct investigations in plant fungi and diseases, according to Dr. J. F. Downing, director of Lilly agricultural research. He was formerly a research assistant in plant pathology at the University of California, Berkeley, where he earned his Ph.D. this year. He also worked one year on the forest disease control staff of the California Range and Experiment station at the same institution.

Dr. Downing has also announced the addition of Fredrick D. Morrison, entomologist, who will assist Dr. Edward J. Campau who supervises entomological investigations at the Lilly Agricultural Research Center. Mr. Morrison was formerly assistant to Dr. Campau in pesticide research and development for the Standard Oil Company of Indiana. He served two years in the division of plant quarantine, USDA, at Honolulu, T.H. A graduate of North Carolina State College of Agriculture and Engineering, Raleigh, he has also completed two years of graduate work at the same college.

### California Research Man Honored in Ceremony

RIVERSIDE, CALIFORNIA—Dr. Boyse E. Day, University of California weed control expert, has been named "Man of the Year" by the Inland Empire chapter of the California Assn. of Nurserymen. Dr. Day, assistant plant physiologist at Riverside, is "research to make possible chemical methods of weed control that have greatly benefited California's \$70,000,000-a-year nursery industry, J. A. Armstrong, Ontario nurseryman, pointed out in presenting him with a plaque.

Production of field-grown roses in particular has undergone "an amazing revolution" since chemicals replaced laborious hand hoeing of weeds, Mr. Armstrong said. "All rose growers are grateful to the University of California and to Dr. Day for the research that made this new type of weed control possible," he concluded.

### NAMED MANAGER

NORFOLK, VA.—Walter F. Bram has been appointed manager of raw material procurement, wholesale and export sales for the Smith-Douglass Co., J. A. Monroe, operations vice president, has announced. Mr. Bram will succeed Russell Spivey, who resigned. The former has been assistant general traffic manager, joining the company in 1954.

### Crop Prospects Good in Texas Agriculture

AUSTIN, TEXAS—After a season of typical Texas weather, which included tornados, torrential rains and hot winds that seared crops with 110-degree heat, farmers in the state still expect to harvest one of their biggest crops in recent years.

Recent rains dropped enough moisture in many parts of West Texas to insure a bountiful harvest. However, along with the rains came hail, but the percentage of ruined cotton and maize is small, compared to the total acreage.

The harvest of bumper crops of cotton and grain sorghum started in extreme South Texas two weeks ago and is steadily moving north. Truck crops and peach harvest is at peak in Central and Northeast Texas. Much hay is being stored along with feed crops for the winter.

In the South Plains area, prospects for cotton are the best in several

years. Observers have already pegged the area's total at 1,700,000 bales, for the biggest total in history. Farmers have also had a cheap crop thus far. A dry spring enabled them to get cotton up on the first planting, then the hot dry weather that followed held down insect activity.

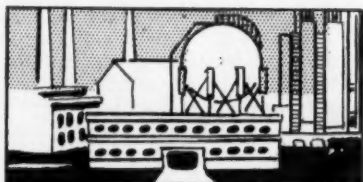
Early rice in the Gulf Coast is blooming and prospects are for a good crop. High yields are expected in fruit, cantaloupes and many vegetables. Alfalfa has already furnished two or three cuttings, and in most areas escaped insect damage.

Hybrid grain sorghums, replacing the standard varieties, show promise of making a high yield throughout West Texas, except in the tightland areas where farmers do not have irrigation water.

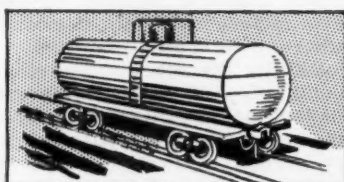
### GROUP CHANGES NAME

DES MOINES—The Iowa Agricultural Limestone Assn., Inc., voted recently to change its name to the Iowa Limestone Producers Assn., Inc.

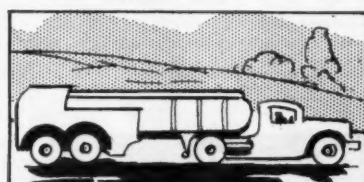
# many NH<sub>3</sub> Producers have:



FACTORIES



RAILROAD CARS



SOME HAVE TRUCKS

# BUT ONLY

## has these extras:

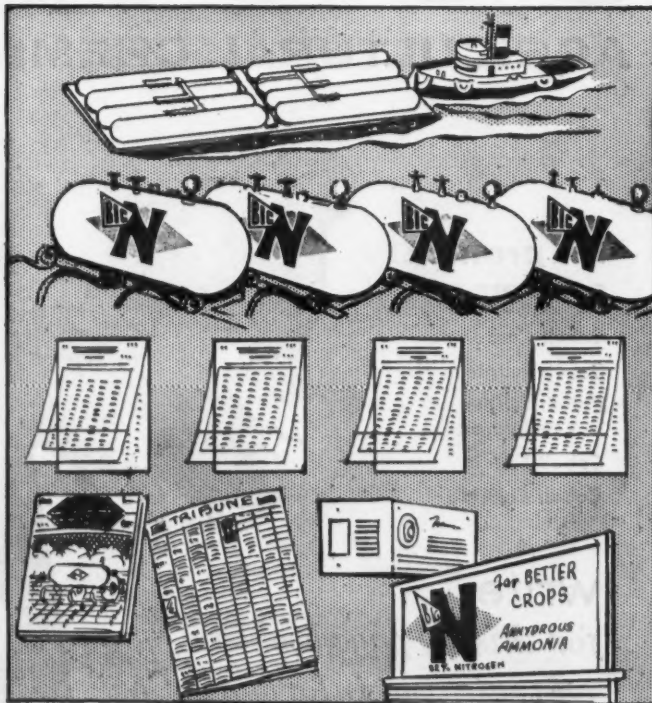


**OUR OWN BARGES**—They insure adequate delivery throughout our distribution area and in effect bring our giant ammonia plant at Lake Charles, La., right next door to our distributors.

**APPLICATOR STOCKS**—We stock adequate supplies of applicators and equipment at strategically-located warehouses, within easy reach of every distributor. We have an easy-pay financing plan to aid our distributors sell applicators.

**FERTILAY**—This is an exclusive, patented method used by Big N to make it possible for every farmer to understand his soil analysis and to interpret his plant food needs.

**COMPLETE ADVERTISING PROGRAM** — Direct mail to every distributor's prospect list takes technical information and "here's how" information to the farmer's own mailbox. Magazine, newspaper, billboard and radio advertising carries the story of Big N throughout our distribution area.



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## FERTILIZER USE

(Continued from page 1)

realized when the size and value of our fertilizer consumption is considered. The United States consumes annually over 22 million tons of commercial fertilizer(3) at a cost of over \$1 billion. Fertilizers probably have contributed as much as any other single factor to the development of our highly efficient and productive agriculture.

Partial answers have been sought periodically through surveys and interviews with farmers. The National Fertilizer Assn.(2) in 1927, 1938, and 1944 made estimates on fertilizer use by crops based on interviews with farmers. The former Bureau of Agricultural Economics(1) made an enumerative survey in 1947 covering about 12,000 farms. The Production and Marketing Administration State Committees<sup>2</sup> also made estimates in 1950 from interviews with farmers.

The United States Census of Agriculture(6) gave the quantity of fertilizer used in the United States for the first time in 1929 and the quantity of fertilizer and liming materials, in 1939. The first information on the quantity of commercial fertilizer used on a few important crops was reported in 1954. This information was solicited from every fifth farm visited by

<sup>2</sup>Lowe, J. N. Unpublished study of reports from State committees of the U.S. Production and Marketing Administration.

REMEMBER TO ORDER

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Dr. J. R. Adams

the Census enumerators. The 1954 Census thus contains the most extensive collection of fertilizer use information ever compiled in the United States.

Six different crops or combinations of crops, including pasture, were included in the Census schedule for all states. Four of these combinations were (1) hay and cropland pasture, in which cropland pasture was defined to include rotation pasture and all other cropland that was used only for pasture; (2) other pasture, not cropland, which includes mostly open permanent pasture along with some woodland or rangeland pasture; (3) fruits, vegetables, and potatoes; and (4) "other" crops.

Information also was obtained in each state on two additional crops selected according to their importance in the state from a list comprised of corn, cotton, tobacco, sugar



Dr. L. B. Nelson

beets, wheat, oats, and rice. The data were reported by counties.

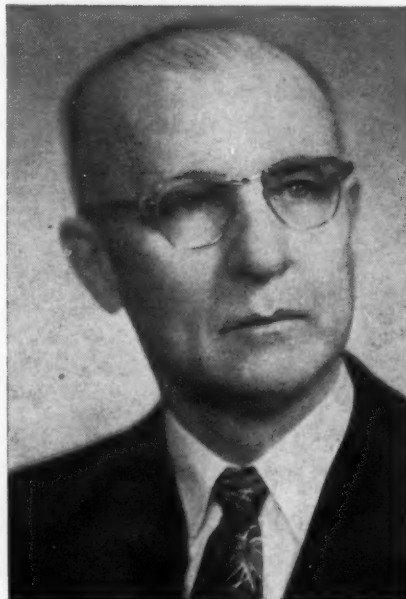
The limitation in the number of crops covered in the schedule prevented gathering data on important fertilizer-using crops in many instances. Information on quantity of fertilizers used was limited to commercial fertilizer materials and mixtures without reference to type or grade and thus gave no data on the quantities of nutrients used. Nevertheless, the Census fertilizer data are based on a tremendously large sample that includes every county in the United States.

Inasmuch as the data were reported on an individual county basis and since counties represent relatively small geographic units, groupings can be made according to soil associations and type of farming areas. The large size of counties and operating units and the limited use of fertilizer in the western states, however, present problems of interpretation not encountered in the eastern states.

To take advantage of the unique opportunities opened by the Census survey, research workers in the Farm Economics and the Soil and Water Conservation Research Divisions contacted state research and extension workers to develop from the Census fertilizer data further estimates that would answer the questions posed earlier in this report.

Steps undertaken were as follows: Counties in each state were grouped into units according to soil association areas and type of farming areas as shown in Figure 1. Committees in each state made the final decision as to county groupings used. In the eastern 31 states the units are representative largely of soil associations, while in the states of the Great Plains and the West they are grouped according to type of farming.

Inasmuch as the smallest geographical Census unit was the county, it was necessary to assign the entire



D. B. Ibach

county to the soil association group or type of farming area predominating in that county. This, of course, tends to distort the true situation somewhat, particularly where large counties are encountered or when a county has several soil associations or types of farming areas.

Acreage and fertilizer tonnage data by state and area for corn, wheat, oats, cotton, and tobacco, when not reported individually by the Census, had to be broken out of the "other crops" group. Similar data for potatoes had to be broken out of the "fruits, vegetables, and potatoes" group.

The Census estimates on total fertilizer use were adjusted nationally and on state levels to data obtained annually by the Soil and Water Conservation Research Division and generally accepted as representing total use of fertilizer. These data are published on the basis of the fertilizer year ending June 30 but the adjustments were made on a calendar year basis. This procedure compensated for any discrepancies between the two sources of data, and furthermore was necessary in order to place the data on an N, P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O basis.

The next step was to estimate the rates of N, available P<sub>2</sub>O<sub>5</sub>, and K<sub>2</sub>O applied per fertilized acre in each of the areas shown in Figure 1 for each crop or crop group. Workers in each state who were familiar with the local fertilizer practices made these estimates. They were guided by the census data, and a compilation from the Soil and Water Conservation Research Division of the tonnages of the nutrients used in the state, and a list showing tonnage of each important grade of mixed fertilizer and of each important fertilizer material. County fertilizer consumption data also were used when available.

With such basic information and the knowledge and experience of local research and extension workers,

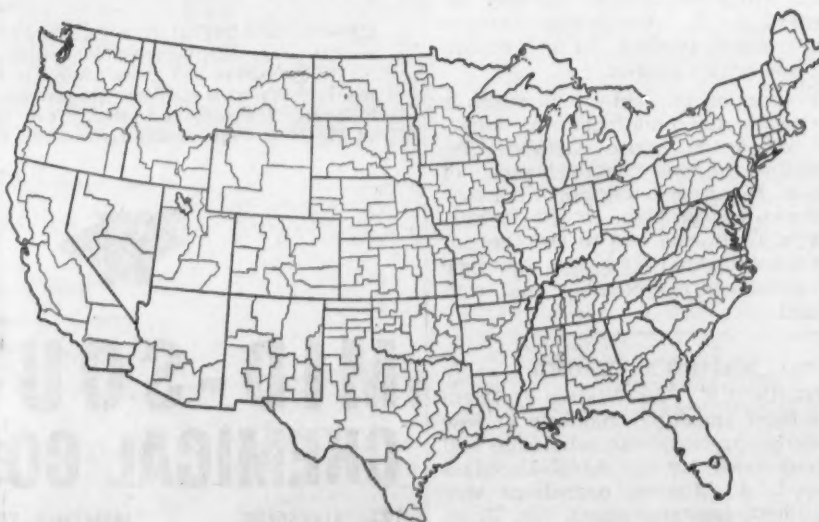


FIGURE 1—County Groupings Delineating the Soil Association or type of farming areas used as the basis for determining patterns of fertilizer use in the United States.

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	PAGE
Essential Trace Elements in Plant & Animal Nutrition	5
Trace Mineral Compounds	9
Fungicides	12
Weed Killers	14
Miscellaneous Agricultural Compounds	15
Available Literature	16
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the estimates of use of plant nutrients by crops can be accepted as generally valid.

Results of the study are summarized in a series of articles covering each crop group and individual crops separately. In each, a table is presented giving estimates for individual states of the total harvested acreage, the percent of the acreage fertilized, tons of fertilizer applied, and rates of N, available  $P_2O_5$ , and  $K_2O$  per fertilized acre. These primarily are of value in comparing fertilizer-use practices on a state-wide basis and for determining the comparative importance of the crop in the various states.

Where possible, a table is included comparing regional and national estimates from the present study with those made in 1947 and 1950. The tables are followed with a series of four maps showing the geographic pattern of the percentage of the harvested acreage fertilized, and the rates of application of N,  $P_2O_5$ , and  $K_2O$  per fertilized acre.

Maps showing the percentage of the harvested acreage fertilized for each of the county groupings shown in Figure 1 were constructed by dividing the data into percentage ranges, i.e., less than 10% of the harvested acreage fertilized, 10-19%, etc. By using this method, any differences in the percentage of harvested acreage fertilized can be easily recognized and related to soil associations or type of farming area. This map does not reflect in any way the total acreage fertilized or the amount of fertilizer used. An area having low acreage and using a small amount of fertilizer appears equal in importance to another where both the acreage and the fertilizer consumption are high.

The maps dealing with rates of N,  $P_2O_5$ , and  $K_2O$  were constructed by dividing the rates of application into ranges of pounds of nutrient per fertilized acre. Otherwise, the comments relating to the maps on percentage of harvested acreage also apply. States, areas, or counties within an area for which there is no available information or where the crop under consideration is not grown, are left blank.

Accuracy of the data presented varies according to the number and kind of estimates involved. Those dealing with percentage of harvested acreage of all crops and cropland pasture and of hay and cropland pasture fertilized are most reliable because they were obtained by the Census enumerators on one out of every five farms in every county in the U.S. Of the individual crops, corn is most reliable since data on percentage of harvested acreage were obtained by the enumerators in 39 states representing 99.4% of the nation's corn acreage. Cotton is next with direct data from 12 of the 19 cotton producing states representing 93.5% of the total acreage. Tobacco follows with 7 out of 21 states representing 75.8% of the acreage, and wheat with 22 states and 75.5%.

Oats have the smallest coverage since data were obtained in 5 states representing only 24.6% of the total acreage.

Estimates on rates of nutrient used per fertilized acre generally must be considered less reliable than those on percentage of acreage fertilized. Not only do the nutrient-use data reflect any discrepancies that might have resulted from the estimates of percentage of acreage fertilized but also those resulting from estimating the rates of N,  $P_2O_5$ , and  $K_2O$  per acre fertilized for the various crops and areas. Least subject to error are the nutrient use data for all crops and cropland pasture group since fewer estimates were involved.

Also, it must be recognized that any study using data for only one year reflects situations peculiar to

that year. The 1954 estimates, for example, undoubtedly are influenced by the drouth cycle prevalent over the southern plains, the Southeast, and in certain other areas of the humid region.

In studying the various maps and data, those familiar with a state or an area will want to supplement the more obvious relationships pointed out in the text. As it has been impossible to include a soil association map showing sufficient details to permit valid comparisons, reference to published state and regional soil maps or to the soil association map of the U.S. appearing in the 1938 Yearbook of Agriculture (8) may be helpful. Similarly, for type of farming comparisons, reference should be made to the map appearing in the U.S. Department of Agriculture, Agricultural Information Bulletin No. 3, 1950, "Generalized Types of Farming in the United States" (5).

Soil names and areas referred to in the reports were obtained from

the latest regional soil maps (4, 9, 10).

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- (1) Ibach, D. B., and Marx, R. E. 1951. Fertilizer and Lime Used on Crops and Pasture, 1947. U.S. Dept. Agr., Bur. Agr. Economics TM 86, 31 pp., illus.
- (2) National Fertilizer Association. 1929-46. American Fertilizer Practices. First Survey 1927. Second Survey 1938. Third Survey 1944. Illus. Washington, D.C.
- (3) Scholl, W., Wallace, H. M., and Fox, E. I. 1955. 1953-54 Fertilizer Consumption in the United States. Croplife 2 (22): 1, 18-21, illus.
- (4) Swanson, C. L. W., Kardos, L. T., and others. 1954. The Changing Fertility of New England Soils. U.S. Dept. Agr., Agr. Inform. Bul. 133, 89 pp. [+ Map], illus.
- (5) U.S. Bureau of Agricultural Economics. 1950. Generalized Types of Farming in the United States. U.S. Dept. Agr., Agr. Inform. Bul. 3, 35 pp. [+ Map].
- (6) U.S. Bureau of the Census. 1930-1955. Census of Agriculture: 1930, 1940, 1954.
- (7) U.S. Bureau of the Census. 1956. U.S. Census of Agriculture: 1954. Vol. III. Special Reports, Part 10. Use of Fertilizer and Lime, 316 pp., illus.
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- (9) U.S. Department of Agriculture, Division of Soil Survey. 1947. Soil Regions of the South [Map].
- (10) U.S. Department of Agriculture in Cooperation with the States of the North Central Region. 1957. Major Soils of the North Central Region, U.S.A. North Cent. Region. Pub. 76 [Map].



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# Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

## Series Begins on Fertilizer Use Patterns

**T**HE most extensive collection of fertilizer use information ever compiled in the U.S. is contained in an exhaustive compilation prepared by the U.S. Department of Agriculture, which begins in this issue of Croplife as a series of nine articles. Authors of the huge compilation are J. Richard Adams and L. B. Nelson, soil and water conservation division, and D. B. Ibach, farm economics research division, who have been assembling data for several years to come up with this series which they describe as quoted above.

The series of reports answers questions which have not had adequate answers before, such as: how much of our croplands in different parts of the U.S. receives fertilizer? How is fertilizer consumption divided among major crops? What percentage of the acreage in each crop receives fertilizer and how does this vary with different states, soils and types of farming areas? What are the rates of fertilizer being applied on the major crops in different states and on the various soils and types of farming areas?

Partial data on these and other questions have been collected in the past, the authors point out. Estimates on fertilizer use by crops were made in 1927, 1938 and 1944, based on interviews with farmers, and the former Bureau of Agricultural Economics made an enumerative survey in 1947 covering about 12,000 farms. The Production and Marketing Administration in 1950 also made estimates from interviews with farmers.

The information contained in the current series of reports was solicited from every fifth farm visited by the census enumerators. The series covers six different crops or combinations of crops, including pasture. Four of the combinations were hay and cropland pasture; other pasture, not cropland, which includes mostly open permanent pasture along with some woodland or rangeland pastures; fruits, vegetables and potatoes, and of course, "other" crops.

Information was also obtained in each state on two additional crops selected according to their importance in the state from a list comprised of corn, cotton, tobacco, sugarbeets, wheat, oats and rice. The data were reported by counties.

Tables, maps, and comparative charts are included with much of the material to be presented. Comparisons of regional and national estimates from the current study with those made in 1947 and 1950 are also presented in many instances.

The current series should provide Croplife readers with much information not available heretofore.

### Farm Acreages Reduced by High Prices for Urban Use

**H**OW agricultural lands are not only being taken for urban developments of various types, but also how the price per acre somehow keeps advancing under such conditions, is noted in Melvin Goldberg's article appearing elsewhere in this issue of Croplife.

He tells of the economic inflation experienced in a plot of land in Nassau County, Long Island, New York which went through an evolution from a potato and vegetable economy through various stages of urban development, until finally it became the site of a 2,200-home development.

The 400 acres involved sold for some \$500 an acre back in 1943. Only a couple of years later, it changed hands for \$1,200 an acre. Not long thereafter, the land went to a firm for \$2,400 an acre, sight unseen. But this still wasn't the end. By 1955, the con-

struction company had sold the land, plus some adjoining acreage, for \$7,800 an acre.

Thus, before a single house was erected on these acres, the property had been sold four times in a 12-year period, with the price jumping from \$500 to \$7,800 an acre. This is not a particularly unusual case, since some property in Nassau County has brought as much as \$16,000 an acre when used for the construction of homes.

Not only for housing developments of this type is agricultural land being put to other purposes, but the inroads of airports, highways and public parks are also cutting into the acreages formerly used for growing food and fiber.

There is some debate concerning whether these developments will result in the use of greater or smaller amounts of pesticides and plant foods. It seems to us that logic puts a favorable light on the side of greater consumption to the acre.

So long as there are available attractive prices like those noted above, it would take a rather strong-willed agriculturist to decline the sale of a few acres of farm land for any reason. Urban development will continue to grow, leaving fewer acres for agricultural use. The fertilizer and pesticide sales story will have to be told more emphatically than ever not only to maintain but also to increase tonnages.

### TVA Subsidies Permit Cut Rate Fertilizers

**B**ACKGROUND information on a new publication issued by the National Chamber, gives some interesting data on the Tennessee Valley Authority. In a preprint from the foreword of the publication, "TVA—What's Next," a couple of paragraphs on the TVA's fertilizer activities says:

"TVA fertilizers are sold commercially at prices which average about 10% below the competitive market. The difference constitutes a part of the subsidy to TVA fertilizer operations.

"TVA's price does not cover its production cost; no charges are made for taxes or interest, while costs of research and development are considered administrative expenses. The fertilizer program is also subsidized by below-cost electric power."

The foreword also points out that U.S. taxpayers are making up huge deficits brought about by the TVA activities in its areas of navigation, flood control, and electric power as well as fertilizer production. The proposed expansion of TVA facilities, according to the bulletin text, would be a great added burden taxwise. "The cost of additional TVA facilities to the taxpayer would be imposed upon costs that now exceed \$2 billion," it says. "Subsidies which have resulted in so-called 'cheap' TVA fertilizers and electricity, would be increased."

As many in the fertilizer trade have said, the government has no logical excuse for being in business at all, but it is about the last straw when part of the high taxes paid by private firms in the plant food business must go for subsidizing TVA and its competition against them.

### Sage Advice

While the U.S. Forest Service goes to great lengths to apply chemical herbicides on some 13,000 acres of Western sagebrush to control the plant, Utah residents are reported by one of Croplife's correspondents, to be backstopping the effort through a psychological warfare of sorts.

Along the roadside near Vernal, Utah, a sign advises tourists traveling along the highway:

"The Sagebrush is Free . . .  
Please Stuff Some in Your Trunk."



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LAWRENCE A. LONG

Editor

DONALD NETH

Managing Editor

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## CALENDAR FOR 1958-59

AUGUST							SEPTEMBER							OCTOBER							NOVEMBER						
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## MEETING MEMOS

Aug. 20-24—Canada Fertilizer Assn. (formerly Plant Food Producers of Eastern Canada), Annual Meeting, Manoir Richelieu, Murray Bay, Quebec.

Sept. 4—Grassland Field Day, Rutgers University Dairy Research Farm, Beemerville, N.J.

Sept. 15-17—Canadian Agricultural Chemicals Assn., Sixth Annual Meeting, Fort Garry Hotel, Winnipeg, Manitoba.

Sept. 24—New England Fertilizer Conference, Melvin Village, N.H.

Sept. 25—Chemical Industry Safety Workshop, Shamrock Hilton Hotel, Houston, Texas.

Oct. 13—Agricultural Research Institute Panel on Problems Related to Agriculture in the Fertilizer Producing Industry, Academy of Science Bldg., Washington, D.C.

Oct. 14-15—Western Agricultural Chemicals Assn., Annual Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

Oct. 16—National Plant Food Institute Conference on Chemical Control Problems, Shoreham Hotel, Washington, D.C.

Oct. 17—Association of American Fertilizer Control Officials, 12th Annual Meeting, Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.

Oct. 20—Annual Sales Clinic of Salesmen's Assn. of the American Chemical Industry, Inc., Roosevelt Hotel, New York.

Oct. 20-21—Fertilizer Section, National Safety Council, annual fall meeting, La Salle Hotel, Chicago, Ill.

Oct. 22-24—Pacific Northwest Plant

Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.

Oct. 28-29—Northwest Garden Supply Trade Show, Masonic Temple, Portland, Ore.

Oct. 29-31—National Agricultural Chemicals Assn., 25th annual meeting, General Oglethorpe Hotel, Savannah, Ga.

Oct. 30—Annual Southeastern Soil Fertility Conference, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 5-7—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C.

Nov. 9-11—California Fertilizer Assn., 35th Annual Convention, Ambassador Hotel, Los Angeles, Sidney H. Blerly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

Nov. 10-11—Agricultural Aviation Research Conference, Milwaukee.

Nov. 18-20—Washington State Weed Conference, Moses Lake, Wash.

Nov. 19-20—Carolinian-Virginia Pesticide Formulators' Assn., Carolina Hotel, Pinehurst, N.C.

Nov. 16-18—National Fertilizer Solutions Assn., Netherland Hilton Hotel, Cincinnati, M. F. Collier, 2217 Tribune Tower, Chicago, Executive Secretary.

Nov. 24-25—Entomological Society of America, Eastern Branch, Annual Meeting, Lord Baltimore Hotel, Baltimore.

Dec. 1-4—Entomological Society of America, Annual Meeting, Hotel Utah, Salt Lake City.

Dec. 3-4—North Central Weed Control Conference, Netherland Hilton Hotel, Cincinnati.

Dec. 5-5—Agricultural Ammonia Institute, Annual Meeting, Morrison

Hotel, Chicago, Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 8—Annual Soils and Fertilizer Short Course, Coffey Hall, University of Minnesota Institute of Agriculture, St. Paul.

Dec. 9-11—Chemical Specialties Manufacturers Assn., Annual Meeting, Commodore Hotel, New York.

Dec. 17-18—Beltwide Cotton Production Conference, Rice Hotel, Houston, Texas, sponsored by the National Cotton Council.

Jan. 20-22, 1959—California Weed Conference, Santa Barbara, Cal.

July 7-9—Pacific Northwest Plant Food Assn., 10th Annual Regional Fertilizer Conference, Tacoma, Wash.

## GOLDBERG

(Continued from page 2)

after 1961. It should also assist in increasing sales of material.

Another indication of the age of specialization as it effects the pesticide industry can be shown in the development of a chicken market in the north Georgia area which used to be planted, many years ago, almost exclusively to cotton. Thirty years ago, this northern section of Georgia comprised small farms, dependent upon cotton as the only cash crop.

With the usual ups and downs in this field and because of the smallness and the non-mechanization of these farms, the farmers faced near starvation, and business men in surrounding towns were correspondingly affected. In 1935, there were about a half million Georgia broilers marketed whereas in 1945 there were almost 30 million birds marketed, valued at around 25 million dollars. In 1957, Georgia shipped more than 261 million birds and led all states in production of broilers for 7 consecutive years. Pesticide formulators who

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normally supplied cotton poisons in this areas have found even a more lucrative and stable market in supplying materials for use on chicken farms.

## AP&amp;C Sales Increase

LOS ANGELES — Consolidated sales of American Potash & Chemical Corp. for the six months ended June 30, 1958, totaled \$23,658,273 compared with sales of \$21,767,946 for the same period a year ago, Peter Colefax, president, announced on July 24.

Consolidated net income for the first half of 1958 amounted to \$2,200,555, equal (after preferred dividend requirements) to 92¢ a share on 2,270,058 shares of common stock outstanding. Net income for the same period last year was \$2,485,332, equal to \$1.25 per share on the 1,905,619 Class A and Common shares then outstanding.

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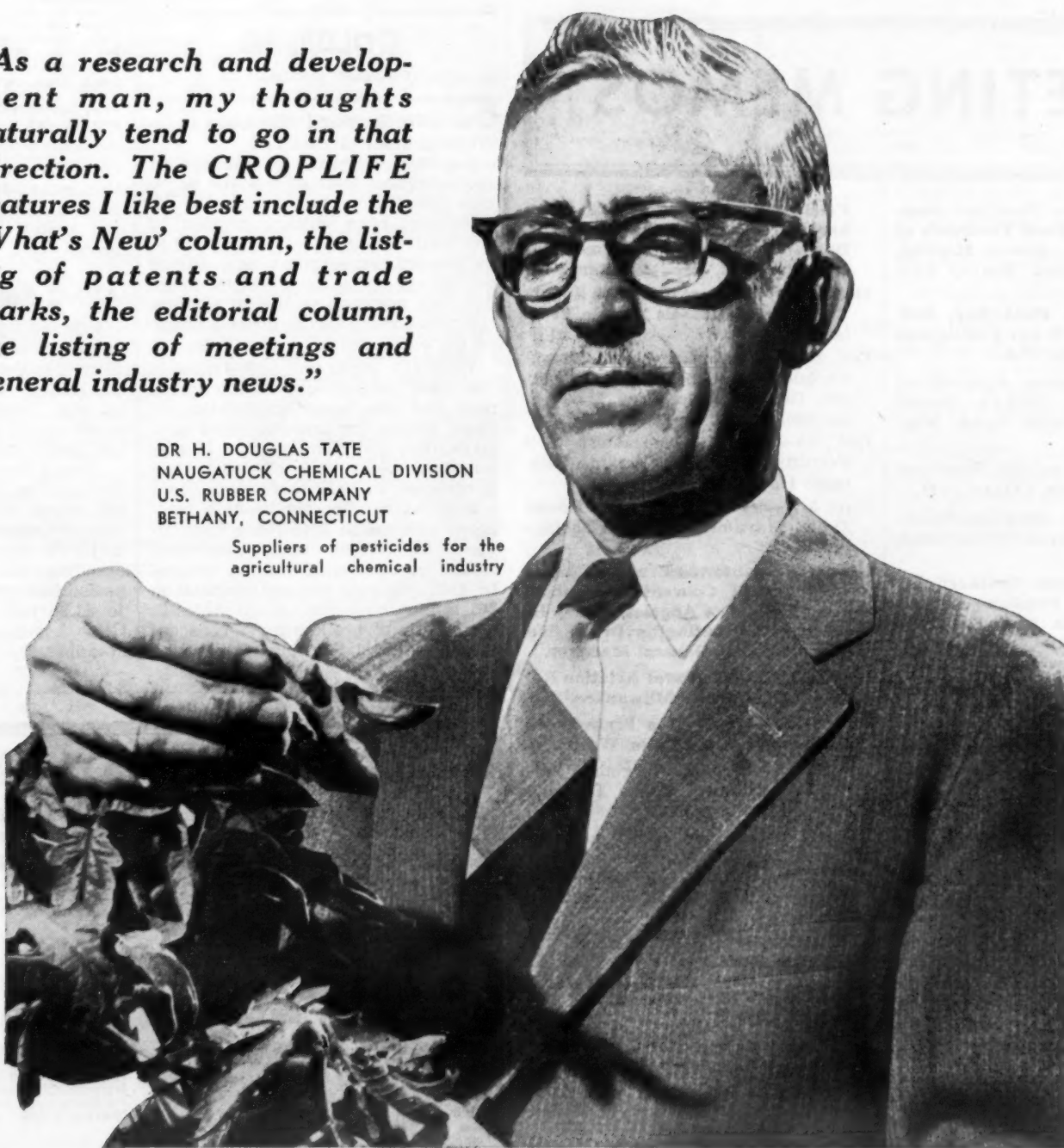


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